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CONTENTS

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Hospital ships have played important roles in the history of Navy medicine, from the *Red Rover* (1862-1865) to the recently decommissioned USS *Sanctuary*. Our cover recalls one of the proudest chapters in the story of Navy hospital ships: the USS *Haven* docks at Nagasaki — the first Allied ship to tie up at that port after the Japanese surrender in 1945.

The continued support of the Media Division, Educational Programs Development Dept., Health Sciences Education & Training Command (HSETC), NNMC, Bethesda, Md., is gratefully acknowledged.

from the Chief

HAPPY ANNIVERSARY, NAVY MEDICAL CORPS.—Cutting the cake to celebrate the 103rd anniversary of the Navy Medical Corps in March 1974 at the National Naval Medical Center, Bethesda, are: Navy Surgeon General VADM D.L. Custis, MC, USN (left); and LT Richard A. Ilka, MC, USN, the youngest medical officer present.

Much has been said and written regarding new Navy Medical-Dental management objectives. There are in addition certain projects which have purposefully not been publicized on the premise that quiet effort would be more conducive to success. One such program has been the highest priority — that of obtaining authorized flag rank for our Medical Service Corps.

The history of this effort dates back to 1966 when the 89th Congress enacted legislation that provided that one officer of the Army Medical Service Corps could hold the rank of Brigadier General. In commenting on this legislation, which was introduced as H.R. 11488 and became Public Law 89-603, BUMED recommended an amendment to authorize a flag officer for the Navy Medical Service Corps. Although the Department of the Navy did not concur with this recommendation, the Under Secretary indicated that he would approve such a legislative proposal if BUMED would agree to relinquish a Medical Corps flag number in exchange; a decision apparently based at least in part on the Senate imposed nonstatutory ceiling on the total number of flag officers in the Navy. BUMED's proposed amendment to H.R. 11488 expired without any actions being taken as did H.R. 17716, a bill that would have required flag rank or general rank for the Chiefs of the Services' Medical Service Corps and the Chief of the Air Force Biomedical Sciences Corps.

Annually since that time, for lack of support in various areas for various reasons, renewed attempts for Congressional attention have been frustrated.

Two years ago the spade work was carefully accomplished obtaining unanimous support throughout OPNAV, SECNAV, OMB and OSD for such legislation. It was introduced in Congress as H.R. 10430 in the early days of the 93rd session. Simultaneously tacit assurance was received from key sponsors regarding its potential. H.R. 10430 died with the adjournment of that Congress, a victim of the turmoil preoccupying its members during the latter half of last year.

We have now begun anew to correct an inequity so long neglected as to defy explanation. This time around, I am persuaded the effort needs and deserves far more than quiet diplomacy for this group is now the one and only Corps community within all the uniformed services where officer members are denied flag rank.

In every particular Navy Medical Service Corps officers are amply qualified for such opportunity. They hold more master and doctorate degrees per capita than any other Navy Corps community. They embody a broad spectrum of graduate expertise that extends from health care administrators to accountants and economists; from system analysts to chemists and pharmacists; from bacteriologists and physiologists to optometrists and psychologists. While these fine officers do not have flag rank opportunity the full career pattern of their counterparts in the Army and Air Force has no such truncation. Nor does the size of the Navy Medical Service Corps explain such an inconsistency for numerically its authorized strength in fiscal year 1975 is larger than four other Navy Corps, all of which are authorized flag officer numbers.

There was selected last month for the second time a Navy Nurse Corps Admiral. This recognition too was overdue. In fact the Public Health Service recently awarded their chief nurse her second star. All of us share in their satisfaction, applaud and take pride in our Navy Nurse Corps. But we are concomitantly the more chagrined to have failed again to right an unconscionable wrong involving the Navy Medical Service Corps.

In these times when equality of opportunity has become a hallmark of personnel management, I, for one, can find but one word to describe this career compromise of the Navy Medical Service Corps officer — albeit passive, the word is still — discrimination.

How do you feel?

The NAMRU-4 Story 1946-1974

During World War II rheumatic fever was the disease that wouldn't quit. Among Navy and Marine Corps personnel, from 1942 to 1945, there were:

- 21,211 cases of rheumatic fever reported.
- 3 million sick days reported as a result of the disease.
- 56 deaths attributed to rheumatic fever.
- 5,442 persons invalided from the service as a result of the disease.

By 1944 rheumatic fever was second only to simple fractures as a cause of man-days lost, due to sickness or noncombat injury.

The Navy attacked this disease on several fronts. In 1945 a new naval hospital was built at Dublin, Ga., where the climate was ideal for convalescence for rheumatic fever. One year later, the McIntire Research Unit for Rheumatic Fever was opened to support the efforts of the hospital. This unit was destined to outlive its host by 28 years, and to achieve fame in a new location, under a new name.

But the success stories were all to come in the future, as Navy Surgeon General VADM Ross "T" McIntire, MC, USN officially opened the research unit named in his honor, on 31 May 1946. The original staff was comprised of 4 physicians (including LCDR John R. Seal, MC, USN, head of the unit), 4 laboratory technicians, and 4 laboratory helpers. Facilities included bacteriology, immunology, chemistry, and pathology laboratories; X-ray and electrocardiography sections; 2 wards; and a field station located in Great Lakes, Ill.

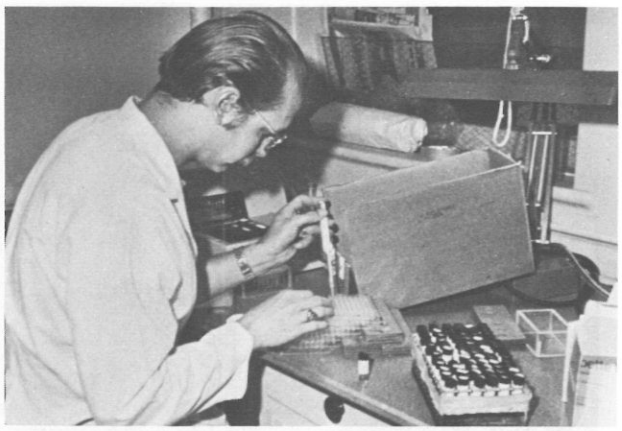
One of the first challenges confronting the unit was to find accurate methods of determining whether the rheumatic process was active or quiescent, in order to ensure that no patient would be unnecessarily confined to bed for long periods of time. Two simple laboratory tests, the Weltman serum coagulation reaction and the Cutler sedimentation test, were analyzed for sensitivity in detecting the active or inactive state of rheumatic fever. The unit found a high order of agreement between these tests and abatement of the rheumatic process.

To determine the incidence and circumstances of the disease, the records of 1,917 consecutive patients, admitted to Dublin Naval Hospital with rheumatic fever, were analyzed for relevant demographic, epidemiologic, clinical, and laboratory factors. This survey revealed that of all the men who contracted rheumatic fever while in the Navy, the number of those who had experienced the disease prior to their enlistment was 13 times greater than the number of men who had no previous history of the disease. Based on these findings, it was believed that the incidence of rheumatic fever could be significantly curtailed in the Navy by excluding applicants for enlistment who had a history of the disease.

FROM DUBLIN TO GREAT LAKES

When Dublin Naval Hospital was turned over to the Veterans' Administration in 1948, the need to continue research on rheumatic fever was readily apparent; the McIntire Research Unit was therefore moved to Great Lakes, where it was reestablished and renamed the

NAMRU-4.—For the last 13 years of its existence, NAMRU-4 was located in the former hospital building at Great Lakes, Ill.



TESTING, TESTING.—HM2 Kent T. Smith, USN, performs tests in the Bacteriology Laboratory of NAMRU-4.

Naval Medical Research Unit No. 4 (NAMRU-4). This unit was dedicated on 7 Jun 1949, and was placed under the commanding officer of the Administrative Command, Great Lakes. CDR Seal continued to serve as officer-in-charge.

The next 13 years saw steady growth in the unit's staff and facilities, with the mission of the unit expanding to include study of the etiology, prevention, and control of acute respiratory diseases which affected Navy recruits. Departments of virology and biometrics were added, and a field laboratory was set up in the Great Lakes recruit camp. This expansion proved to be a wise move when, a few years later, a flood of naval reservists and recruits arrived at Great Lakes in response to the outbreak of the Korean conflict.

The influx of new recruits magnified the need for more investigative work on acute respiratory disease and rheumatic fever. While the cause of rheumatic fever remained uncertain, it was increasingly apparent that cases of this disease erupted following outbreaks of respiratory disease due to the group A streptococci, and that rheumatic fever was preceded by scarlet fever, a manifestation of streptococcal infection. Group A streptococci were therefore closely studied by NAMRU-4 investigators during the early 1950s.

Beginning in 1951, penicillin treatment of streptococcal infections was also vigorously pursued, with the result that streptococcal infections and rheumatic fever have been virtually eliminated in naval recruits by the use of this drug. This accomplishment is considered by many to represent a major step in medical progress.

After more than 8 years as officer-in-charge, CDR Seal relinquished the reins of NAMRU-4 to CAPT H.K. Sessions, MC, USN, in Jul 1954. CAPT Sessions was in turn succeeded by CAPT Matthew J. Hantover, MC, USN, in 1955.

Under CAPT Hantover's direction, the Medical Education for National Defense Symposium was held in Feb 1956, for which some of the most distinguished names in medicine and microbiology assembled at Great Lakes. It was here that the original work on the discovery of the adenovirus group, then called "APC-RI viruses," was reported by groups from the National Institutes of Health and the Walter Reed Army Institute of Research, which had worked independently on the problem. At this symposium NAMRU-4 scientists also announced the isolation of a virus designated "2060," which proved to be the first of the rhinovirus group of agents now known to cause the common cold.

THE FIGHT AGAINST INFLUENZA

In Jan 1957, when CDR B.F. Gundelfinger, MC, USN (now a retired CAPT) became officer-in-charge of NAMRU-4, an Asian flu epidemic endangered the health of naval recruits. NAMRU-4 virologists had already achieved notable success in combating influenza. During epidemics of respiratory disease in 1952 and 1954, 45 strains of influenza C virus had been isolated and identified. These viruses occurred simultaneously in the same epidemic. It was determined that the C virus was associated with mild illnesses, and that it did not shift antigenically over the 2-year period. The experience of NAMRU-4 with this virus was unique, and quelled the fears of epidemiologists who had only slight knowledge of the virus's characteristics.

In 1954, the first variation of influenza-B virus since the 1940 Lee strain, was isolated from a recruit. It was determined, from the prototype strain GS-1750-54B, that a major shift in the antigenic composition had occurred. The virus was therefore incorporated in a

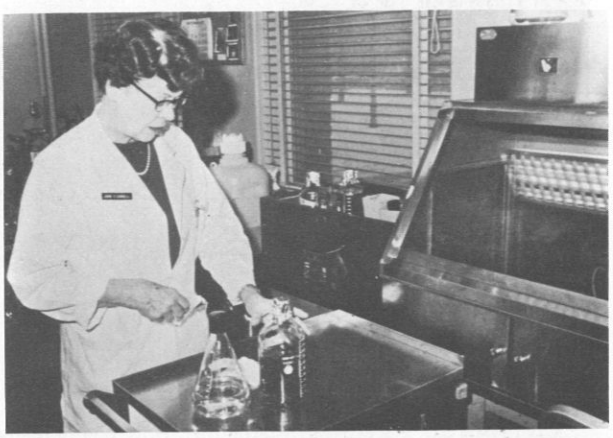
CIVILIAN SUPPORT.—Mrs. Carolyn R. Hoy, one of many civilians who supported the mission of NAMRU-4 during its 28-year history, reads the results of tests in the Immunology Laboratory.

standard vaccine used throughout the U.S., in both the military and civilian population; it was also incorporated in all polyvalent vaccines for the next 10 years.

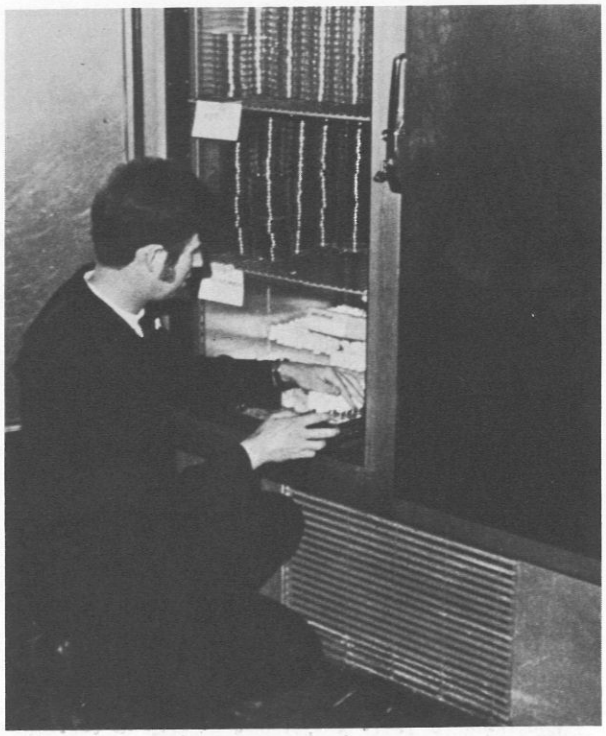
NAMRU-4 virologists were also the first to succeed with an alternate technique of isolation and propagation of influenza viruses, using human tissue cultures. After considerable experimentation with various types of human cells, lung and kidney tissues proved the most successful for sustaining influenza A and B. A monkey kidney tissue-culture system, developed as a substitute for human kidney tissue cultures, is now used worldwide for the isolation of influenza viruses.

Biometricians of NAMRU-4 also developed a new equation to determine the effectiveness of vaccines. Called "IVE" (intrinsic vaccine efficacy), the equation took into account the relative reduction of illness incidence in vaccinees, in relation to the number of control patients who became infected with the agent being tested. Now used by many investigators, the IVE equation is a novel and useful method for evaluating vaccines that are being developed.

A new influenza virus vaccine prepared from the hemagglutinating fraction of the influenza virus was tested for acceptability and antigenicity in recruits. The new vaccine evoked one-sixth as many febrile or systemic reactions, and one-half as many local reactions as the standard vaccine. The antibody response to the hemagglutinin vaccine was rapid, and titers were slightly higher than those obtained using the standard vaccine. Another preparation containing the hemagglutination antigen with light mineral oil and arlacel A as an adjuvant, provided a superior antibody response. These studies led to the development of an improved influenza vaccine for use in military and civilian populations.



PREPARING FOR CULTURE.—Mrs. Joan L. O'Connell, a member of the Virology Laboratory staff, prepares media for tissue culture.



INCUBATION.—In the Bacteriology Division, HM2 Dennis A. Drews, USN, places specimens in the incubator.

INTO THE SIXTIES

On 14 Jun 1961, NAMRU-4 moved into what had formerly been the hospital building at Great Lakes. With CAPT L.F. Miller, MC, USN as officer-in-charge, the research unit was organizationally placed under the commanding officer of Nav Hosp Great Lakes.

A pneumonia crisis among recruits during the early 1960s resulted in the establishment of a Mycoplasma Research Division on 19 Sep 1962. Much of the division's work on mycoplasmas was concentrated on diagnostic methods. A selective medium and color test, for the isolation and identification of mycoplasma, was developed here; serologic identification procedures were improved, and new culture media were formulated for detecting mycoplasma in patients. The discovery by NAMRU-4 scientists that *M. pneumoniae* is resistant to methylene blue is now cited as a criterion for differentiating this organism from other mycoplasma species.

NAMRU-4 personnel also compiled a manual on the handling of mycoplasma in the laboratory. Entitled "A Laboratory Guide to the Mycoplasmas of Human Origin," this booklet is currently used in medical schools and universities.

CAPT Charles H. Miller, MC, USN served briefly as officer-in-charge of the research unit during May 1964, being replaced in June by CAPT Robert O. Peckinpaugh,

MC, USN. On 1 Jan 1965, control and management of the unit was assigned to the Bureau of Medicine and Surgery, with area coordination given to the commandant of the Ninth Naval District.

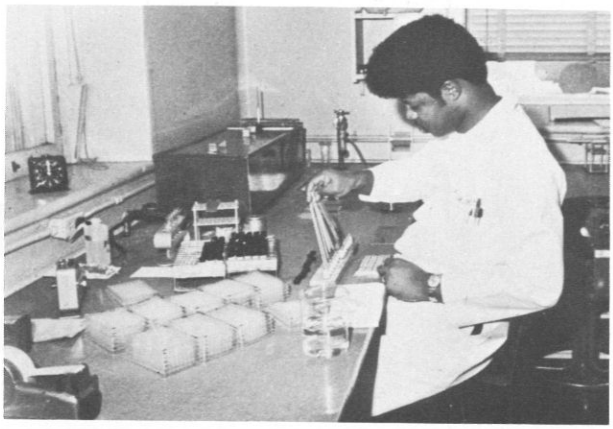
Also in 1965, NAMRU-4 became involved in a Navy-wide program to investigate and prevent meningococcal infections. A NAMRU-4 investigator collaborated with researchers from the Center for Disease Control, Atlanta, Ga., to develop a medium which increased the detection of meningococcal carriers by 50%; with this medium, strains could be grouped serologically from primary cultures.

In 1968, NAMRU-4 personnel developed an improved method to identify meningococcal strains; this method relied on characteristic fermentation patterns for meningococci in Mueller-Hinton broth. A counterimmunoelectrophoretic test for detecting meningococcal group-specific antigens in spinal fluid and serum was also developed, for use in establishing the diagnosis and prognosis of meningococcal disease. Extended to pneumococcal and *H. influenzae* antigens, the test procedure resulted in a rapid (30-minute) method of identifying the bacterial antigens associated with meningitis in children and adults.

Until this time, NAMRU-4 had always functioned under other commands. On 13 Apr 1968, however, CAPT Peckinpaugh was designated the unit's first commanding officer.

When a new recruit training center opened in Orlando, Fla., in 1968, authorities at the Bureau of Medicine and Surgery felt that acute respiratory disease and pneumonia at Orlando should be placed under immediate study. Therefore, on 4 Sep 1968, the NAMRU-4 Component Research Laboratory was established at Nav Hosp Orlando.

LAST CO.—CAPT Charles H. Miller, MC, USN served for 2 tours of duty at NAMRU-4. He was CO of the facility when it was disestablished in Apr 1974.



IMMUNOLOGY.—HM1 Robert M. Anglin, USN, of the Immunology Division, prepares dilutions for immunologic tests.

DISESTABLISHMENT

In Jun 1971, a milestone was marked as NAMRU-4 celebrated its 25th anniversary, an occasion highlighted by scientific meetings. Then, in May 1972, CAPT Charles H. Miller, MC, USN (now retired) returned to NAMRU-4 to serve as its second, and last, commanding officer.

Faced with budget and personnel constraints, the Bureau of Medicine and Surgery was forced during Fiscal Year 1974 to make several far-reaching management decisions concerning the scope of naval medical research and development programs. Although acute respiratory disease continued to be a major cause of man-days lost by Navy and Marine Corps personnel, it was felt that further support of a laboratory devoted entirely to the prevention and control of this group of diseases could no longer be justified. (In contrast to research programs conducted in response to operational needs unique to the Navy, such as submarine and diving medicine or fleet medical support efforts, research on acute respiratory disease is of equal concern to the civilian medical community and the other military services. The National Institutes of Health, the Center for Disease Control, and the Army all support respiratory disease research programs, which are adequate for identifying new acute respiratory disease agents, and for developing improved preventive vaccines.) NAMRU-4 was therefore disestablished on 1 Apr 1974.

At the time of its disestablishment, NAMRU-4 was supported by a staff of 30 civilian and 27 military chemists, microbiologists, physicians, and laboratory technicians, as well as a crew of clerical and maintenance personnel, statisticians, publications experts, an instrument repairman, and an animal keeper.

Left behind was a legacy of dedicated service to the health and welfare of the Navy family.

Project NAVREACS

A Regional Primary Care System

By CAPT A.E. Baggett, MC, USN*
and
LCDR F. Daniel Duffy, MC, USNR
Naval Regional Medical Center
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Project NAVREACS (Naval Regional Ambulatory Care System) was initiated at NAVREGMEDCEN Portsmouth, Va., in Nov 1973 in response to the lack of primary care physicians at the medical center, and the impending shortage of such physicians in regional dispensaries. In place of scarce primary care physicians we substituted a primary care *system* consisting of physician extenders (ie, nurse clinicians, physician assistants, and minor illness technicians) who served under the supervision of a medical specialist or "secondary care" provider.

Prior to initiating Project NAVREACS, analysis of a typical walk-in clinic workload revealed that the majority of patients had minor or time-limited illnesses, that many had chronic illnesses which could be followed exclusively in the walk-in clinic, and that some health maintenance was required, such as routine physical and X-ray examinations. An efficient triage or patient-sorting system was obviously needed to channel each patient to the health care professional who could most properly provide appropriate medical care.

In developing our program, we carefully reviewed the protocols for physician extenders that had been designed through the joint efforts of the Massachusetts Institute of Technology Lincoln Laboratory and the Beth Israel Hospital of Harvard Medical School; we also studied the results of Project AMOS, conducted at DeWitt Army Hospital, Ft. Belvoir, Va. Drawing upon this research, we then elected to use the algorithm approach, whereby protocols are developed to guide physician extenders in the systematic collection of subjective and objective data from the patient. Such protocols, or algorithms, also direct data analysis and recommend explicit medical action. They are thus significantly different from and more advanced than the rough guidelines many physicians have developed for their own use or for use by nonphysicians.

At Portsmouth, we developed algorithms for use during triage, and in the training of technicians assigned to the Minor Illness Clinic (formerly called the Walk-In or Screening Clinic). Procedural manuals were also developed for triage and the management of minor and chronic illnesses.

TRIAGE

When an ambulatory patient arrives at the hospital without an appointment, he is first seen by the clerk at the triage desk. Usually this clerk is either a hospital

*CAPT Baggett is chief of the Hospital Ambulatory Care Service and director of Project NAVREACS at NAVREGMEDCEN Portsmouth, Va. LCDR Duffy is assistant director of the program.

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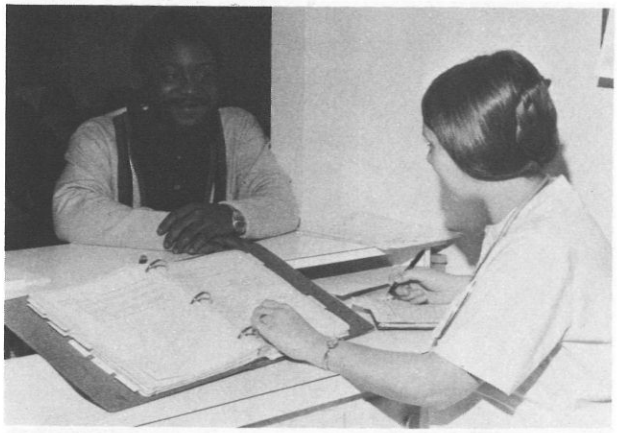


PROTOCOLS.—Following well-defined protocols, or algorithms, HN Ann Bertomeu systematically interviews patient HN Leon Penny to determine his current health status.

corpsman or a Red Cross volunteer trained in the use of the triage manual. Using algorithms designed for the most common presenting medical complaints, the clerk refers the patient to the appropriate health care professional for care. Although some patients may be referred directly to the emergency room or to specialty clinics, most are directed to the Minor Illness Clinic.

MINOR ILLNESS CLINIC

The most important member of the Minor Illness Clinic staff is the medical officer, who cares for patients with more complex problems and supervises the work of the minor illness technicians.

The technicians themselves receive 12 weeks of intensive on-the-job training, during which time they learn to use the algorithm approach to assessment and management of medical problems. They are specifically trained in certain tasks, such as history taking, and in the diagnostic skills needed to perform physical examinations. Data is recorded on 12 different data collection sheets, each designed for a particular category of common acute or minor illness. When reviewing a patient's case, the medical officer finds these completed data collection sheets to be a ready source of concise information.

Ideally a clinic staff of 1 medical officer, 1 physician assistant or ambulatory care nurse clinician, and 4 minor illness technicians can care for 100 patients during an 8-hour period.

CHRONIC ILLNESS NURSING CLINIC

To deal with the large number of patients with chronic illnesses who come to walk-in clinics for prescription refills, blood pressure and blood sugar determinations, and other routine procedures, a Chronic Illness Nursing Clinic was established at the medical center within the existing Internal Medicine Clinic. Selected nurses were trained to manage the most common chronic illnesses, such as diabetes, hypertension, obesity, and arthritis. A 2-week series of lectures, prepared and delivered by members of the internal medicine staff, helped develop communication skills between physician and nurse, with the goal of improving patient care and facilitating a problem-oriented approach to the keeping of health records. The nurses also worked directly with patients during on-the-job training.

Although the condition of patients referred to the Chronic Illness Nursing Clinic is essentially stable, many patients require continuity of care, and need to be taught how to live with and understand their illness. In scheduled appointments, clinic nurses carefully discuss these problems with the patient. The course of each patient's illness is also monitored through the use of flowsheets, developed to reflect specific data and criteria set forth in the chronic illness manual. If a nurse should detect any change in a patient's status, an internist, already familiar with the patient's case, may be consulted.

MINOR ILLNESS.—HN Linda Ketcham, specially trained in the detection and treatment of minor illnesses, examines Mrs. Catherine Rogers in the Minor Illness Clinic at NAVREGMEDCEN Portsmouth, Va.

QUALITY CONTROL

As in any health care delivery system, quality control must be assured, regardless of who actually provides the health care. Since carbon copies are made of both the triage note and the data collection sheets, the physician can audit the quality of health care in the Minor Illness Clinic as he reviews these forms and signs prescriptions. Spot chart review and annual evaluation by the patient's physician are also accomplished.

ADVANTAGES

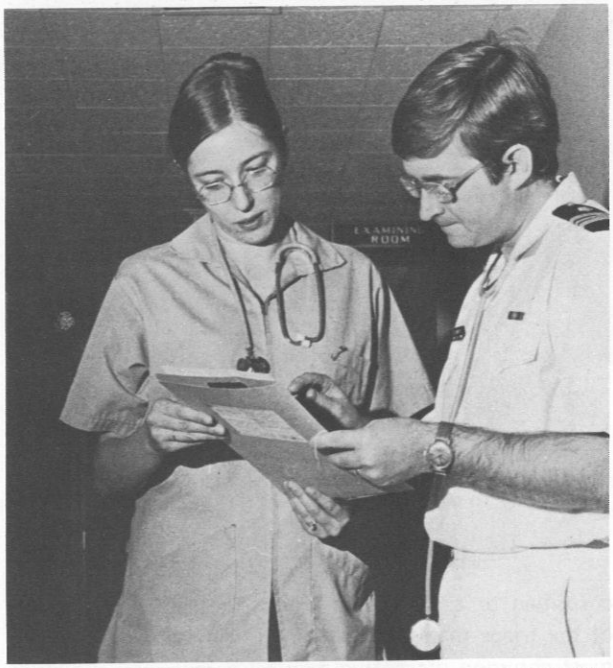
This system of providing ambulatory care offers a number of advantages to both the patient and the medical facility:

▶ Use of a standardized triage manual permits rapid assessment of the patient's problem, insuring that serious, possibly life-threatening conditions are referred promptly to the health care professional most capable of handling the emergency. Direct triage also permits necessary tests to be obtained en route to a specified specialty clinic.

▶ Use of physician extenders to assess and manage common illnesses decreases the patient's waiting time, and standardizes treatment programs. Physicians are freed to deal with more complicated medical problems.

▶ Since chronic illness can be diagnosed and stabilized but not cured, continuous patient education is essential to enable patients to understand their condition and to take the necessary steps to insure comfortable and productive lives. Use of nurse clinicians in this role gives continuity to such education and counseling efforts.

The Navy's 1st Minor Illness Clinic became operational at NAVREGMEDCEN Portsmouth, Va., on 9 Jan 1974; the Chronic Illness Clinic was established here on 15 Mar 1974. On 1 Jul 1974, a Minor Illness Clinic was opened at the Admiral Joel T. Boone Clinic, Naval Amphibious Base, Little Creek, Va., followed on 15 Sep 1974 by a similar clinic at the Naval Base dispensary.



PROFESSIONAL REVIEW.—LCDR F.D. Duffy, MC, USNR, assistant director of Project NAVREACS, reviews data collection sheets with minor illness technician HN Pat Melko.

There is no doubt that primary care is best delivered by a primary care physician. In the absence of such physicians, however, a primary care system, supervised by secondary care medical specialists, may be realistically substituted. Assuring continuity of care by permitting physician extenders to work with the same small group of physicians appears to be a more tenable solution than rotating medical specialists and subspecialists through a walk-in clinic.

There Must Be A Pony Somewhere:

Reorganization of the Health Care Occupational Field

By CDR Joseph S. Cassells, MC, USN*

The ability of the Navy Medical Department to accomplish its increasingly diversified mission with maximum effectiveness depends to a great extent upon the training, performance, and effective utilization of its enlisted personnel. In recent years, as we have prepared to meet the demands of evolving health care delivery methods, the need for total reorganization and revitalization of the enlisted personnel classification system within the Medical Department has become more apparent. The reality of the all-volunteer force, with its impact on the quantity and quality of enlisted personnel joining the Medical Department, has reinforced the need for reorganization.

The awareness of this need for reorganization existed prior to the formation of the NEOCS (Navy Enlisted Occupational Classification System) Study Group. These problems are not unique to the Navy Medical Department. In fact, in many ways, our problems are less severe and much better understood than those of our line counterparts. The Chief of Naval Operations directed the formation of the NEOCS Study Group to investigate, document, and recommend solutions for our problems. The Bureau of Medicine and Surgery recognizes that the NEOCS concept is a sound management tool to be utilized in accomplishing the much-needed and required reorganization goals. Through NEOCS, personnel and requirements can be identified to facilitate effective manpower and personnel management for the accomplishment of the naval mission, and to provide for the career welfare of naval enlisted personnel.

The current Navy Enlisted Classification (NEC) system has proven ineffective for 3 chief reasons:

- Duplication of training.
- Overtraining of 1st-term personnel, with resultant loss of time and money that could better be utilized to train larger numbers of efficient personnel in a shorter time.
- Proliferation of NECs, which has restricted the flexibility of detailers and the availability of personnel for rotation. In some cases, the NEC serves as a rating and not as a supplement to a rating, as originally intended.

To help correct these shortcomings, the NEOCS Study Group recommended that all related functions be incorporated to form an occupational field. Hospital corpsmen and dental technicians were therefore combined to form the new health care occupational field.

The study also determined that there are 4 skill levels within the Navy, not 9 as indicated by the present 9 pay grades. These 4 skill levels are: apprentice, journeyman, supervisor, and manager. (See Figure 1.) Although the present pay grades will remain under the NEOCS concept, they will be placed within the appropriate skill level.

Apprentices are personnel in pay grades E-1 through E-4 who have basic knowledge of the function and operation of the occupational field. Journeymen are those personnel in pay grades E-5 and E-6 who perform

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*CDR Cassells is project manager of the BUMED Implementation Group for the NEOCS Program. Other group members are: LTJG A.R. Simas, MSC, USN; DTC B.L. Church, USN; and HM1 G.L. Chaney, USN.

The opinions or assertions contained herein are those of the author, and are not to be construed as official or necessarily reflecting the views of the Navy Department, or the naval service at large.

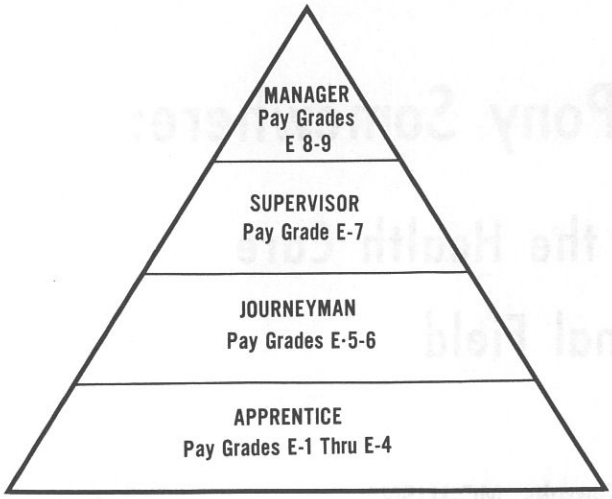

Figure 1.—The 4 skill levels within the Navy.

advanced functions associated with the health care occupational field. Supervisors, who serve in pay grade E-7, oversee and direct all related functions. At the top of the career ladder, managers (pay grades E-8 and E-9) control and direct the implementation of command policies within the occupational field.

The health care occupational field is comprised of 10 service ratings (see Figure 2) which were determined by senior hospital corpsmen and dental technicians during the NEOCS Health Care Occupational Field Workshop held in Jun 1974 at Bethesda, Md. A service rating is made up of personnel who perform like functions (such as all laboratory technicians). Obviously, all current NECs cannot be made service ratings. Some NECs have too few personnel to support a separate service rating; others are specialties staffed primarily by personnel in their 1st enlistment, or represent a subspecialization refinement of basic skills that is not sufficiently unique to justify a separate service rating.

The patient care service rating, for example, includes many current NECs which have the common base of direct patient care, such as operating room, neuropsychiatry, and physical and occupational therapy technician. Identification of personnel with specialized functions is still possible through the use of NECs within the general service rating.

Figure 3 depicts the enlisted career pattern after reorganization is completed. The number of personnel serving at the journeyman and supervisor levels has been purposely controlled to allow for timely promotion. Billets have been rewritten at the appropriate skill levels. Pay grades E-8 and E-9 have been combined at the manager level to allow incumbents to perform managerial functions across the occupational field, and to serve as managers in their specific service ratings.

Figure 4 shows the current distribution of personnel, as applied within the NEOCS framework. The current NEC system and the proposed NEOCS are similar except for the alignment of service ratings, with the greatest imbalance being found in the independent duty service rating at the supervisor level. As currently written, these billets require that senior personnel (E-6 and E-7) be assigned. To correct this imbalance between the 2 systems, billets must be rewritten at each skill level. The largely uncontrollable factors of normal attrition and time will also help achieve parity between the 2 systems.

Although the reorganization of the health care occupational field does not permit alteration of required skill levels, or of the overall triangle configuration itself, the flexibility of the new system allows service ratings and NECs to be expanded and contracted as needed. With reorganization, the following improvements will be effected:

- Billets will be rewritten as skill levels, thereby providing greater overall flexibility.
- Examination will be done by service rating, thereby increasing opportunities for advancement.
- Personnel will be trained only to meet actual Navy requirements, thereby eliminating unnecessary overtraining of 1st-term personnel.
- Additional training will be provided as required throughout an individual's career.
- A visible career pathway will be provided for enlisted personnel.

HMC	Patient Care
HMI	Independent Duty
HML	Laboratory
HMR	Radiology
HMP	Pharmacy
HMO	Optician
HMS	Preventive Medicine
DTG	Dental General
DTP	Dental Prosthetic
HME	Health Care Equipment Repair

Figure 2.—Occupational Field Health Care Service Ratings.

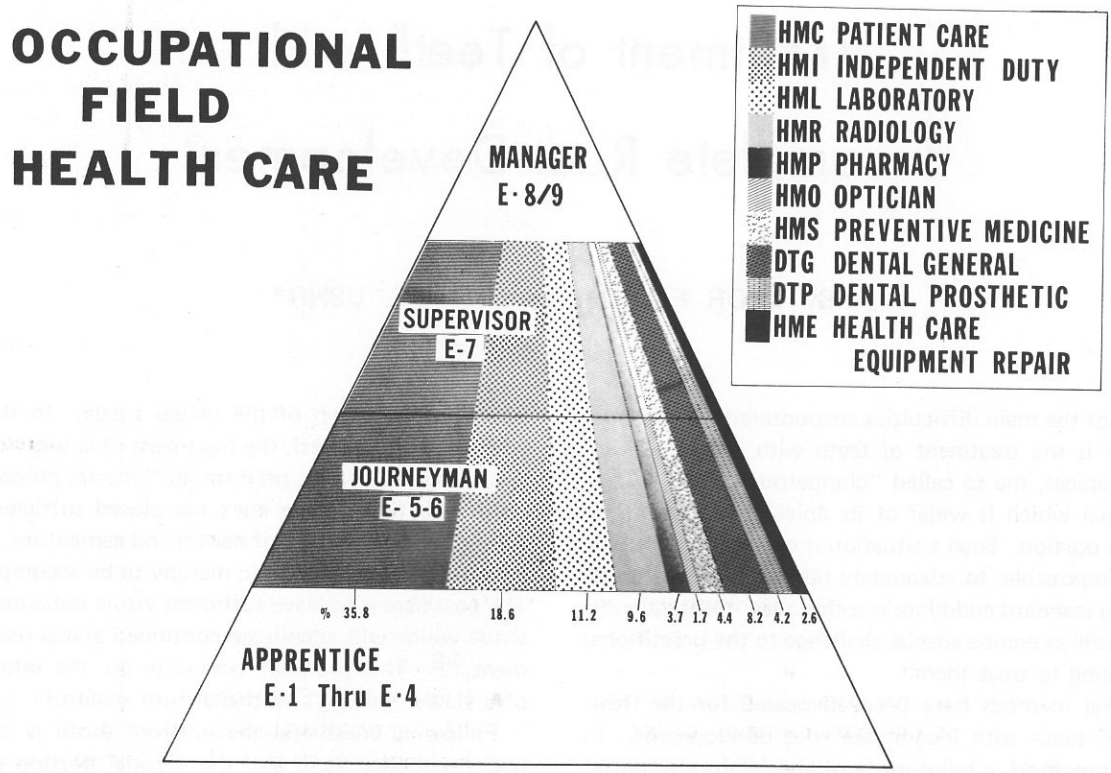

Figure 3.—Enlisted career pattern after reorganization.

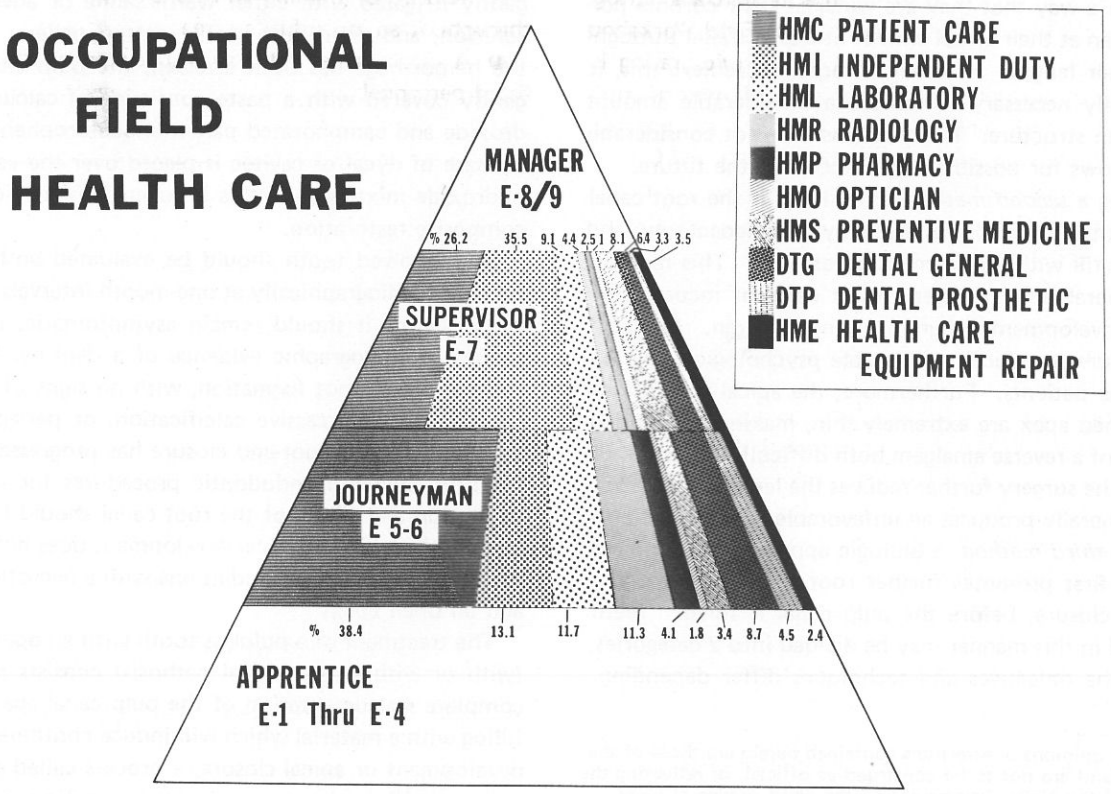

Figure 4.—Current distribution of personnel, as applied within the NEOCS framework.

Treatment of Teeth with Incomplete Root Development

By LCDR Frank J. Vertucci, DC, USNR*

One of the main difficulties encountered in root canal therapy is the treatment of teeth with wide open or flaring apices, the so called "blunderbuss canal." This is a canal which is wider at its apical end than at its cervical portion. Such a situation is extremely difficult, if not impossible, to adequately debridge and obturate utilizing standard endodontic techniques. Consequently, these teeth present a special challenge to the practitioner attempting to treat them.

Several methods have been advocated for the treatment of teeth with incomplete root development. In the *first method*, a tailor-made or specially rolled gutta-percha point is utilized to fill these canals.[1,2] This technique requires that the root canal walls be prepared in such a way that they are wider at their coronal portion than at their apical end, or at least parallel throughout their length. However, in order to achieve this, it is usually necessary to remove a considerable amount of tooth structure. This weakens the root considerably and allows for possible root fracture in the future.

Using a *second method*, the filling of the root canal with gutta-percha is followed by an apicoectomy, and reverse fill with amalgam is performed.[3] This method has several disadvantages. Most cases of incomplete root development occur in young children. Surgical procedures produce considerable psychological trauma to these patients. Furthermore, the apical walls of an unformed apex are extremely thin, making the condensation of a reverse amalgam both difficult and risky. Finally, the surgery further reduces the length of the root and generally produces an unfavorable crown-root ratio.

In a *third method*, a biologic approach is employed which first promotes further root development and apical closure, before the pulp canal is filled. Teeth treated in this manner may be divided into 2 categories, since the objectives and techniques differ depending upon the condition of the pulpal tissue. In the case where the pulp is vital, the treatment of choice, known as apexogenesis, is to perform an "interim pulpotomy" until such time as the apex has closed sufficiently through the deposition of dentin and cementum, allowing nonsurgical endodontic therapy to be accomplished. The goal here is to leave sufficient viable radicular pulp tissue which will encourage continued apical development.[4-9] This probably occurs under the influence of a viable Hertwig's epithelial root sheath.

Following anesthesia the involved tooth is isolated under a rubber dam, and the coronal portion of the pulp is amputated to the level of the cervical line by means of sharp curettes. The pulp chamber is then gently irrigated with either warm saline or anesthetic solution, and dried with sterile cotton pellets. Once the hemorrhage has been arrested, the pulp stump is gently covered with a paste consisting of calcium hydroxide and camphorated para-monochlorophenol. A subbase of dycal or cavitec is placed over the calcium hydroxide mixture, and this is covered by a silicate or composite restoration.

The involved tooth should be evaluated both clinically and radiographically at one-month intervals. During this time it should remain asymptomatic; there should be radiographic evidence of a dentinal bridge and continued root formation, with no signs of internal resorption, excessive calcification, or periapical pathology. Once root-end closure has progressed sufficiently, standard endodontic procedures for instrumentation and filling of the root canal should be followed. If continued apical development does not occur, the tooth should be treated as one with a necrotic pulp and an open apex.

The treatment of a pulpless tooth with an open apex (with or without periapical pathosis) consists in the complete instrumentation of the pulp canal space, and filling with a material which will induce continued root development or apical closure, a process called apexification.[10-15] In these cases dentin is not deposited, and root-end development or apical closure occurs through

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The opinions or assertions contained herein are those of the author and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large.

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the deposition of a calcific substance resembling cementoid or osteoid. If Hertwig's epithelial root sheath remains viable, root-end development will occur. However, if severe periapical inflammation has destroyed its viability, apical closure occurs through the deposition of a calcific barrier without continued root development.

The involved tooth should be isolated under the rubber dam, and access gained into the pulp chamber with a high-speed round bur. The root canal is then thoroughly debrided and prepared, as in any endodontic treatment. Culture control is utilized, and a suitable medication is placed between visits.

Over the years many different substances have been employed to induce apical closure. These include a polyantibiotic paste,[16] chemical salts in the proportion found in bone,[17] zinc oxide associated with thymol, iodoform and cresol,[18] Diaket[19] (a compound of beta-diketones and zinc oxide), gutta-percha,[20] Crossman's sealer,[21] zinc oxide and eugenol,[22] and calcium hydroxide.[23]

The paste most widely used today is that suggested by Frank.[24] Calcium hydroxide and camphorated paramonochlorophenol are mixed to a putty-like consistency and introduced into the pulp canal with either a Lentulo spiral, or the blunt end of a large silver cone. These instruments should be calibrated to avoid forcing the material into the apical tissues. Barium sulfate may be added to the mixture for radiopacity. When the canal is filled to the level of the cervical line a cotton pellet is placed, and the remainder of the chamber sealed with a zinc oxide and eugenol base followed by either a silicate or composite restoration.

The tooth should then be evaluated at two- to three-month intervals. If after a six-month period there is no evidence of apical closure, the residual dressing should be removed and a fresh mix inserted. This procedure is continued until a calcified bridge (cementoid or osteoid stop) is observed at the apex, either radiographically or through tactile exploration of the apex with a fine file or reamer. However, it is not necessary to obtain complete apical closure. The objective of the procedure is only to obtain sufficient closure to permit adequate instrumentation of the pulp canal, and proper condensation of the root canal filling material. Once sufficient calcification has occurred, the canal should again be completely debrided, irrigated and dried, and an appropriate medication sealed in place. Obturation should be completed at a separate visit.

Additional research is needed in order to achieve a better understanding of root development and apical closure. Until such time as this is accomplished, the *biologic approach* is the treatment of choice for endodontically involved teeth with open or flaring apices.

REFERENCES

1. Hare G: Obliteration of the root canal with the open apex. J Endodontia 3:31, 1948.

2. Englander JA: Treatment of non-vital teeth with incompletely formed roots. J Dent Med 2:90-96, 1956.

3. Ingle J: Obliteration of the flaring apical foramen. Dent Dig 62:410-412, 1956.

4. Gloudeman EA: Endodontic management of the wide open apex. J Wis Dent Soc 44:49-53, 1968.

5. Zeldow H: Endodontic treatment of vital and non-vital immature teeth. NY Dent J 33:327-335, 1967.

6. Torneck CD: Biologic effects of endodontic procedures on developing incisor teeth. I. Effect of partial and total pulp removal. Oral Surg 30:258-261, 1970.

7. Duell RC: Conservative treatment of the open apex. Dent Clin North Am 17:125-135, 1973.

8. Goldman M: Root-end closure techniques including apexification. Dent Clin North Am 18:297-308, 1974.

9. Cvek M: Clinical procedures promoting apical closure. Trans 5th Int Conf on Endodontics 30-42, 1973.

10. Dylewski JJ: Apical closure of non-vital teeth. Oral Surg 32:82-89, 1971.

11. Van Hassel HJ: Induction of foraminal closure. J Can Dent Assoc 35:606-608, 1969.

12. Ham JW, Patterson SS, Mitchell DF: Induced apical closure of immature pulpless teeth in monkeys. Oral Surg 33: 438-449, 1972.

13. Heithersay CS: Stimulation of root formation in incompletely developed pulpless teeth. Oral Surg 26:620-630, 1970.

14. Steiner JC and Van Hassel HJ: Experimental root apexification in primates. Oral Surg 31:409-415, 1971.

15. Van Hassel HJ and Natkin E: Induction of root end closure. J Dent Child 37:57-59, 1970.

16. Ball JS: Apical root formation in a non-vital immature permanent incisor. Br Dent J 116-167, 1964.

17. Johnson VM: Experimental development of bone through the apical foramen. J Am Dent Assoc 32:443, 1945.

18. Cooke C and Rawbothan TC: Root canal therapy in non-vital teeth with open apices. Br Dent J 108:147-150, 1960.

19. Friend LA: The root treatment of teeth with open apices. Proc R Soc Med 59:1035-1036, 1966.

20. Wijk PH: Apical root canal obliteration in undeveloped roots. Ned Tiidschr Tandeheelk 74:470-477, 1967.

21. Rule DC: Root growth and apical repair subsequent to pulpal necrosis in children. Br Dent J 20:586-590, 1966.

22. Holland R and Leonardo NR: Processo de reparo de dentes com rizogenese incompleta apos tratamento endodontico. Rev Bras Odont 25:370-376, 1968.

23. Day RM: Calcium hydroxide in root canal therapy. A case report. Dent Practit Dent Rec 17:384-386, 1967.

24. Frank AL: Therapy for the divergent pulpless tooth by continued apical formation. J Am Dent Assoc 72:87-93, 1966.

Xeroradiography in the Evaluation of Mass Casualties

By CAPT Miguel Nieves, Jr., MC, USN
and
LCDR Robert M. Ellsworth, MC, USN

INTRODUCTION

A major difficulty encountered in rapidly and efficiently processing large numbers of injured personnel following a major catastrophe is the time and effort involved in handling the necessary roentgenographic examinations. In the event of an atomic explosion by accident or in war, a violent earthquake, or other major disaster, large portions of the existing medical facilities could become inoperative, especially fixed automatic X-ray processors, darkrooms, and fixed high voltage, high MA 3-phase radiographic equipment.

Processing of film could also present a difficult problem. There would be a need to protect the films from radiation or light exposure during storage and transport. Darkroom facilities could become nonexistent or inoperative because of a water shortage, or contamination of needed chemicals. The resulting logistic problems would be difficult to solve, and probably very expensive. It then becomes necessary and imperative to have a simple alternate radiographic imaging system to take the place of damaged conventional equipment,[1] for use in establishing diagnoses and in the management of fractures, foreign bodies, and other injuries.

Military field light-weight, sturdy, portable, battery-operated radiographic units, capable of operating at levels as high as 300 MAS and 100 kVp, can easily be obtained commercially and are available at many armed forces hospitals. These could be kept readily accessible to emergency rooms and triage areas, for use in the event of a power failure due to destruction of high-voltage power lines. The units could form an essential part of emergency services.

Xeroradiography is the proposed alternative system. Since Jan 1973, this modality of imaging has been used by the Radiology Department of the Naval Regional Medical Center, Oakland, Calif. Based on our experience, it represents an ideal system to be used in the event of a mass casualty situation.

METHODS AND EQUIPMENT

Xeroradiography is a dry, photoelectric process; conventional radiography is a wet photochemical process. In contrast to conventional radiography, which employs radiographic film consisting of a polyester or a cellulose base and a silver halide emulsion, xeroradiography involves the use of an aluminum plate with a thin coating of selenium, a photoconductor. The commercial Xerox-125 xeroradiographic system consists of 2 units, a conditioner and a processor. In the conditioner the photoconductive layer of the plate is charged to a high-positive potential. The plate is then automatically placed in a light, tight cassette ready for exposure.

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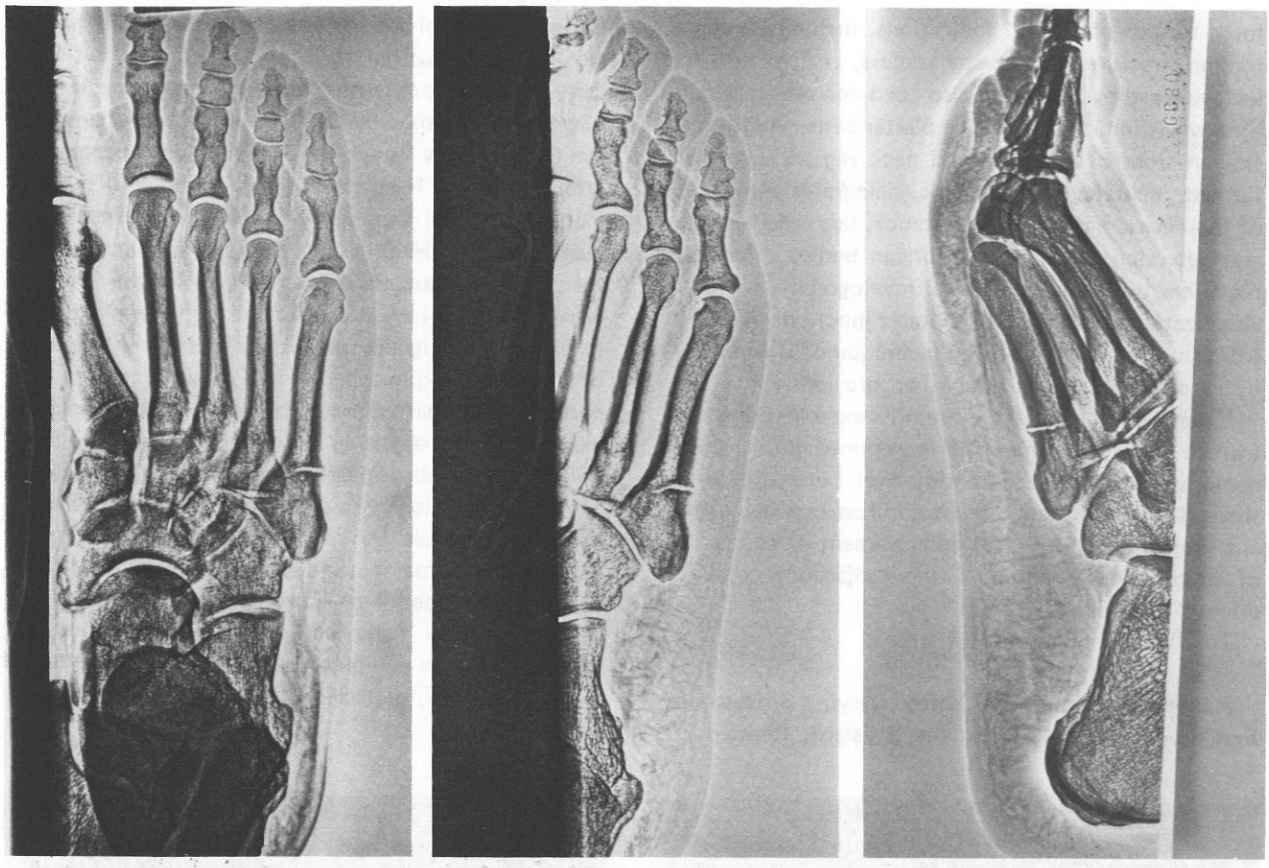


Figures 1a, 1b, and 1c.—Anteroposterior, oblique, and lateral projections of the foot clearly demonstrate a recent unhealed fracture of the proximal shaft of the 5th metatarsal.

After X-ray exposure of the object to be examined, a latent image is formed consisting of an electrostatic gradient across the surface of the plate. In the processor this latent image is developed into a visible image by exposure to a finely divided, electrically charged, blue powder; the image is then transferred to a paper surface for viewing, interpretation, and permanent storage. The plate is mechanically and electrically cleaned of any residual image, and it is then ready to be used again.[2]

In practice, the Xerox-125 system can be used with a wide variety of X-ray tubes. In our department all mammographic examinations, and most nonmammographic studies have been obtained by the use of a General Electric model MBN 300 MA 125 kVp rotating anode tube, with tungsten target and 1.0 to 2.0 mm focal spot size. Radiographic technique factors vary widely depending upon the examination performed, and detailed technique charts are available from the Xerox Corporation. Most of our mammograms are obtained at 34 to 40 kv and 450 mas. Extremity and other nonmammographic studies are obtained at 120 kv, with a mas varying from 15 to 600. A Bucky grid may be used for heavier, denser parts such as hips and femurs.

RESULTS

Xeroradiographic evaluation of the breasts has been the most frequently conducted examination since Jan 1973; more than 400 mammographic examinations have been performed using this modality. Xeromammography has completely replaced conventional film radiography in our department; it has been greeted and accepted, with interest and enthusiasm, among the surgeons and other clinicians on the hospital staff. Our results in this limited number of patients have been impressive; excellent correlation with surgically proven cases has been observed. In a relatively small number of biopsy proven cases of breast carcinoma studied since Jan 1973, 93% were correctly identified preoperatively on the xeromammogram. Only a single false-negative interpretation was made, involving a lesion that later proved to be a carcinoma. Further details of our results with xerographic examination of the breast will be considered in a later report.

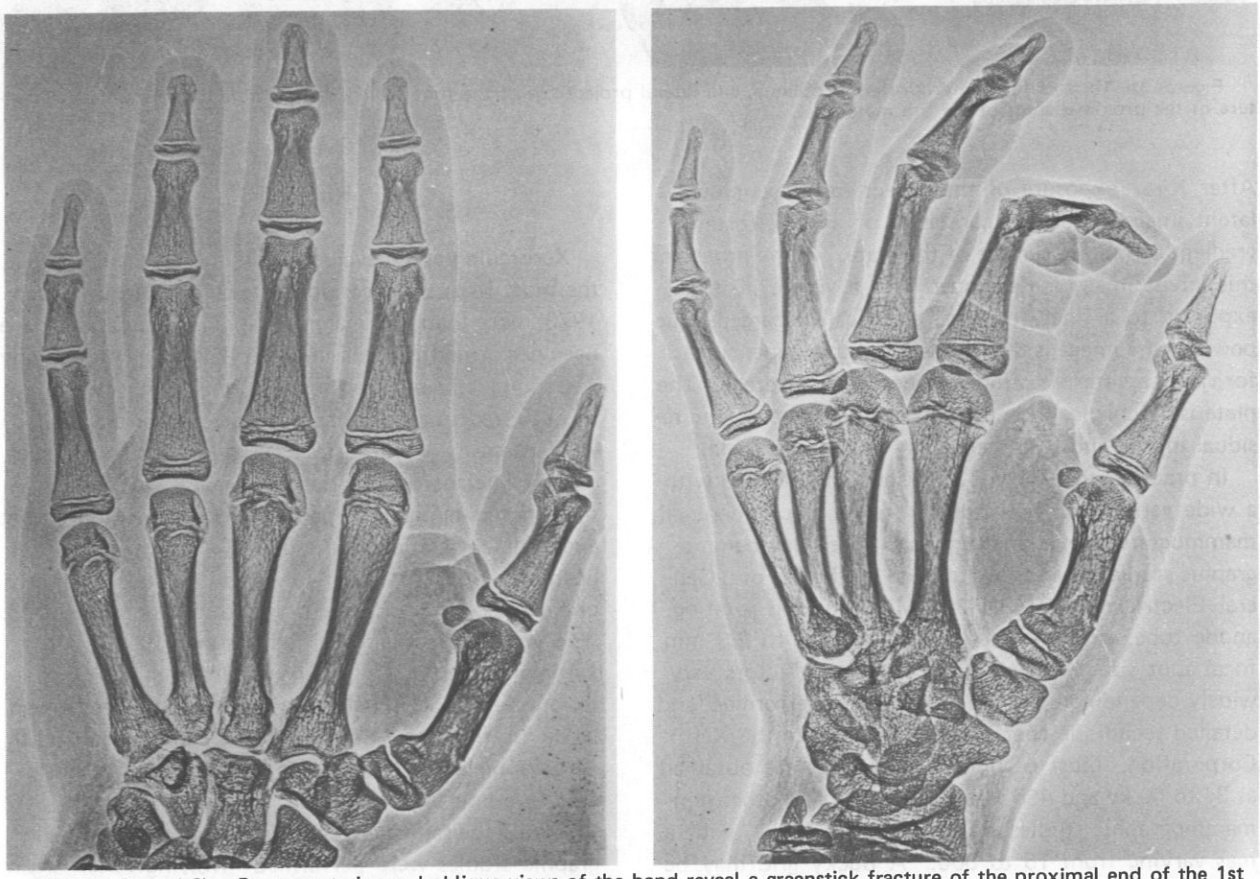
During the same period of time, over 400 xeroradiographic studies were performed involving other organ systems. Most of these were extremity examinations

for a variety of clinical indications, including minor trauma, fractures, soft tissue tumors, and foreign bodies. Xeroradiography was also used for post-reduction films of extremity fractures in plaster casts. Additional examinations of the head and neck regions were performed, including cervical spine, sialograms and studies of the neck area for airway patency, laryngeal anatomy and detection of swallowed foreign bodies. The technique has been used in cervical myelography, for better visualization of the cervical thoracic junction. A report from this department on the technique of sialography by xeroradiography was published previously.[3]

Examples of different extremity examinations performed in our department are reproduced in this article, demonstrating the good rendition of bone and soft-tissue detail, and the excellent contrast between different subject densities. This enhancement of contrast is of course brought about by the "adjacency or edge effect," discussed elsewhere.[4]

DISCUSSION

Historical review. The Xerox copying process was first developed in 1937 by the physicist, Chester Carlson. Most of the early applications of this process were in the industrial field, and it was not until the early 1950s that extensive investigation of medical applications was begun by Dr. John Roach at Albany Medical College, New York. Dr. Roach's work attracted the attention of Dr. Herman Hilleboe, Director of the New York State Civil Defense Commission and the State Department of Health. Dr. Hilleboe was laying plans for the medical aspects of civil defense for the State of New York, and he was concerned with the difficulties in planning emergency radiological service in the event of an atomic explosion or mass catastrophe. It occurred to him that xeroradiography, being a dry photoelectric system requiring no chemical process, would be an ideal substitute for the conventional radiographic film system which requires a chemical development process that could be damaged easily, and rendered useless after a major accident. Dr. Hilleboe decided to use this modality of imaging, and he supplied a number of New York State hospitals with emergency xeroradiographic equipment to be used in the event of a major disaster, expecially an atomic attack or explosion.[5]



Figures 2a and 2b.—Posteroanterior and oblique views of the hand reveal a greenstick fracture of the proximal end of the 1st metacarpal.

A number of investigators studied the medical applications of xeroradiography over the years, and in 1966 Dr. John Wolfe of Hutzel Hospital in Detroit initiated a full study of its application to mammography. Now he is recognized as one of the leading authorities in xeroradiography, and xeromammography is regarded as one of its most important and useful applications.[2] Campbell, Roach, and Jabbur in the 1950s experimented in xeroradiography of the extremities and concluded: "1) Xeroroentgenography is an effective means of recording roentgen images of the bones and joints of the extremities; 2) The accentuation of fine definition and contrast gradation in examination of both bone and soft tissue is an aid in the study of diseases of bones and joints of the extremities."[6] A recent article by Woesner and Sanders reported the superiority of xeroradiography over conventional radiography for the detection in soft tissues of non-metallic foreign bodies such as wood, plastic, glass, graphite, and fish and chicken bones.[7] An article by Holinger, and others in 1972,[8] and a more recent report by Doust and Ting in March 1974,[9] described the usefulness of xeroradiography in examination of the larynx and other soft tissues of the neck. The advantages of xeroradiography lie in its experimentally proven superiority in resolution of fine detail, and its accentuation of contrast in the image by the "edge or adjacency effect" inherent in the photoelectric process.[10] The xeroradiographic process has been investigated widely and intensively for more than 20 years, and its definite superiority to conventional film radiography in certain applications has been well documented.

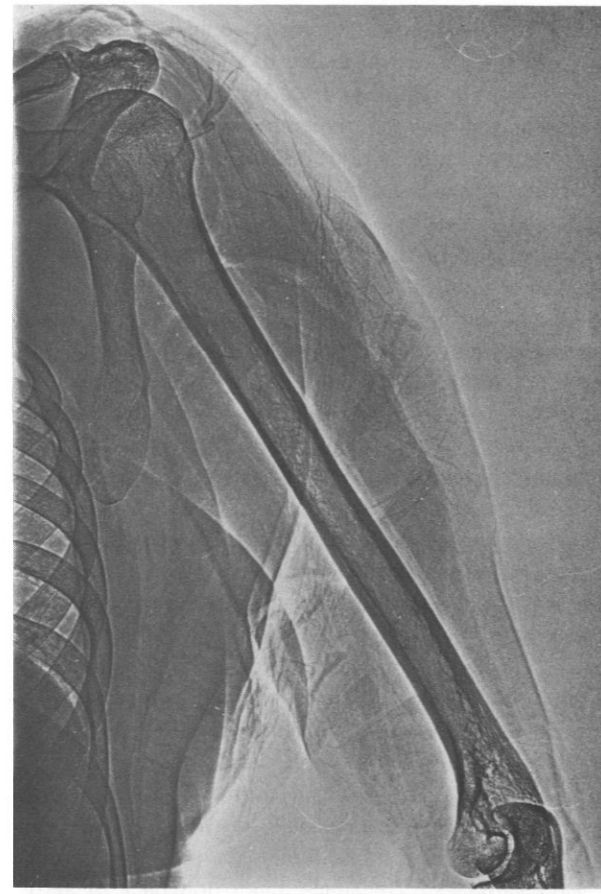


Figure 3.—An anteroposterior xeroradiograph of the normal humerus demonstrates the wide range of latitude offered by the process, with excellent detail in both bone and soft tissue.

Discussion of results and advantages. Many of the radiology technicians in our department have been trained in the use of the Xerox-125 imaging system, and they have adapted readily to the minor differences between this modality and conventional film radiography. Xeroradiographs being obtained are of very satisfactory technical quality. Once a technician becomes familiar with the equipment, high quality xeroradiographs can be obtained just as fast as conventional films. Evaluation and comparison of the time factors involved in performing conventional film and Xerox studies demonstrate that they can be done in approximately the same time; xeroradiography often has a slight advantage for routine use in a busy radiology department. Although the technician time involved in exposing either conventional film or a xeroradiographic plate is essentially the same, the xeroradiographic plate can be developed immediately and introduces no competition with conventional films for the use of the darkroom and film processors. Furthermore, each of the projections can be processed immediately for rapid viewing, while subsequent views of the extremity are being obtained. An entire examination, consisting of several views, can be available for the radiologist's interpretation within less than 2 minutes after the last views were obtained.

No darkroom facilities or chemical solutions of any type are needed with xeroradiography. Protective film containers are not necessary, since radiation and light have no deleterious effects on xeroradiographic equipment. There is also no risk of film deterioration, and there is no need to transport a large number of supplies because the xeroradiographic plates can be reused repeatedly. Another benefit is that personnel need not be specially trained; the techniques employed are identical to those in conventional radiography and are familiar to all X-ray technicians.

The xeroradiographic equipment operates on conventional 110 to 115 volt, 60-cycle current, and can function utilizing power generated by emergency generators. The equipment is compact and mobile. Consequently, for the radiographic evaluation of mass

casualties, the Xerox equipment could be transported easily to a forward triage area to eliminate some of the burden on the radiology department. In the event of a nuclear accident, contaminated personnel, and the portable radiographic and xeroradiographic equipment necessary to examine them, could be moved to a more protected or isolated site. This would protect other personnel and patients from unnecessary exposure to radiation. The relatively low radiographic technique factors of current and kilovoltage required for use in xeroradiography of the extremities, obviate the need for sophisticated X-ray equipment situated in the main radiology department of large hospitals, and allows for the use of light-weight, sturdy, portable, battery-operated, radiographic units. The rapid 90-second Xerox processor offers a distinct advantage over the older and slower 5- and 15-minute automatic film processors, especially in institutions that do not own the available 90-second conventional film processors. The production of the permanent paper image, which can be viewed by any light source, eliminates the need for film illuminators. Finally, while two separate films are usually necessary in conventional film radiography to adequately image both soft tissues and bones of the extremities, the wide exposure latitude inherent in the xeroradiographic process usually provides an excellent image of both on a single film.

Disadvantages. The single major drawback of xeroradiography is the higher radiation exposure required, as compared with a conventional radiographic film-intensifying screen combination. As a result, the method is limited in application to radiography of the extremities, breasts, head, and neck. Xeroradiography is not used for obtaining studies of the abdomen, pelvis, and spine, except in the elderly patient where the genetic radiation hazard is not significant. In a mass casualty situation, the triage system would be expected to take this factor into account.

SUMMARY

Our experience has revealed the advantage, flexibility, and feasibility of using xeroradiography in place of conventional radiographic studies in triage areas, in the event of a major catastrophe.

- The equipment is mobile and easily transported.
- The equipment can be used with emergency power.
- A portable, battery operated, X-ray unit can be utilized to produce the xeroradiograph.
- Darkroom capabilities are not needed.
- Xerox plates can be reused immediately in a lighted room.
- There is no need for view boxes, as the xeroradiograph can be interpreted by any available light source.
- Treatment and disposition of patients can be expedited, since there is no need to transport the injured to the X-ray department for evaluation.
- Xeroradiography is not recommended for abdominal or chest examinations in young patients because of the higher X-ray exposure, as compared to conventional radiography; in an emergency situation, and in older people in whom genetic factors are no longer an obstacle, xeroradiography is not contraindicated.

It is our feeling that the Xerox-125 imaging system has already proved its value in routine use, in a large radiology department. Though our experience at the Naval Regional Medical Center Oakland is limited, we feel that the system would prove advantageous and worthy of consideration as an alternative to the conventional radiographic system for use in triage areas, in the case of major disaster.

Acknowledgments

The authors express their appreciation to HM2 Timothy Town for photographic duplication of the xeroradiographs, to Mrs. Edith Magnani and Mrs. Jeanette Morgan for assistance in preparation of this manuscript, and to HMC Joseph Hampton, R.T., for technical assistance.

REFERENCES

1. Roach JF, Hilleboe HE: Xeroradiography. Am J Roentg 73:5-9, 1955.

2. Wolfe JN: *Xeroradiography of the Breast,* Springfield, Charles C. Thomas, 1972.

3. Hampton JR: Xeroradiography for Sialography Medical Application. Xerox Corporation Bulletin 112, Oct 1973.

4. Wolfe JN: Xerography of the breast. Cancer 23:791-796, 1969.

5. Roach JF, Hilleboe HE: Xeroradiography. J Am Med Assoc 157:899-901, 1955.

6. Campbell CJ, Roach JF, Jabbur M: Xeroroentgenography: an evaluation of its use in diseases of the bone and joints of the extremities. J Bone Joint Surg 41-A:271-277, 1959.

7. Woesner ME, Sanders I: Xeroradiography: a significant modality in the detection of nonmetallic foreign bodies in soft tissues. Am J Roentgenol Radium Ther Nucl Med 115: 636-640, 1972.

8. Holinger PH, Lutterbeck EF, Bulger R: Xeroradiography of the larynx. Ann Otol Rhinol Laryngol 81:806-808, 1972.

9. Doust BD, Ting YM: Xeroradiography of the larynx. Radiology 110:727-730, 1974.

10. Wolfe JN: Xeroradiography of the bones, joints, and soft tissues. Radiology 93:583-587, 1969.

NAVY MEDICINE — 1875

ASIATIC STATION.—Medical Inspector Thomas J. Turner prefaces his report on conditions aboard the USS *Tennessee*:

> The prevention of disease is a section of medicine demanding much study and cautious research, for it reaches from the individual to grasp the masses and assumes in such character the dignity of statesmanship. It is here that a medical officer comes in contact with those in command. Infrequently the suggestions of the medical officer upon the hygiene of a vessel are accepted; more frequently, however, any hint as to the preservation of the health of the crew is considered as officious, as an attempt at interference, or as a reflection upon the so-called discipline; the officer classified with the meddlesome, intrusive, or annoying, and very early reminded that "in the opinion of the commanding officer" he should confine his attention to his legitimate duties. It is not understood by many naval officers that hygiene is a legitimate and perhaps the most important part of a medical officer's duty.—*Hygienic and Medical Reports by Medical Officers of the U.S. Navy,* prepared for publication, under the direction of the Surgeon-General of the Navy, by Joseph B. Parker, A.M., M.D., Surgeon, U.S. Navy, Assistant to the Bureau of Medicine and Surgery. Washington: Government Printing Office, 1879, p. 99.

Clinical Investigation Center NAVREGMEDCEN Oakland

By CDR J.D. Wallin, MC, USN
Director, Clinical Investigation Center
Naval Regional Medical Center Oakland, Calif.

The history of the Clinical Investigation Center (CIC) at Naval Regional Medical Center Oakland, Calif., began in 1950 when a metabolic research facility was founded at Nav Hosp Oakland. Established and supported entirely as an in-service project, this facility was designed to coordinate medical research activities at the hospital, emphasizing metabolic and biochemical approaches to clinical problems. During the early years, the efficacy of corticosteroids in the management of various diseases was investigated, and major contributions were made in the developing field of nephrology. Highlights of this period of investigation included characterization of the tubular handling of amino acids in normal and diseased kidneys, renal function in cystinurics, and clinical studies of acute tubular necrosis. In 1953, the facility acquired one of the first artificial kidneys on the West Coast.

The many successes of the Metabolic Research Facility made expansion an attractive and promising prospect. The Research Division of the Bureau of Medicine and Surgery therefore invited the University of California at San Francisco to participate in the Navy efforts, and in Jun 1957 the CIC was established at Oakland with research funded by an Office of Naval Research contract with the university. The mission of the Center has not changed over the ensuing years: to conduct clinical investigation of a broad and fundamental nature, with particular reference to the special clinical material available at the hospital, and the interests of the CIC professional staff.

From 1957 to 1960 renal research continued under the guidance of LCDR Paul Doolan, MC, USN; George Theil, M.D.; and LT Norman Carter, MC, USNR. During these years the CIC received national recognition as a research institution. Major professional publications evolving from Center research projects included a report on the development of peritoneal dialysis as a clinical tool, evaluation of the effects of spironolactone (a new diuretic) on renal function, and clarification of the relationship between the serum levels of creatinine and glomerular filtration rate.

AREAS OF INVESTIGATION

During the early and mid 1960s, the character and direction of the Center was subtly but definitely altered. Under the direction of CDR Raymond Watten, MC, USN, research was directed into 4 basic areas of investigation. Endocrine-metabolic studies continued, with completion of the study of aminoaciduric syndromes. Abnormalities in hydroxyproline excretion in various endocrine diseases were also evaluated, and important contributions were made in the field of nutrition. As a result of further study of renal diseases, a classic paper was published describing 11 cases of Goodpasture's syndrome, and reviewing the previous literature. Today this study remains one of the most important papers written on this subject.

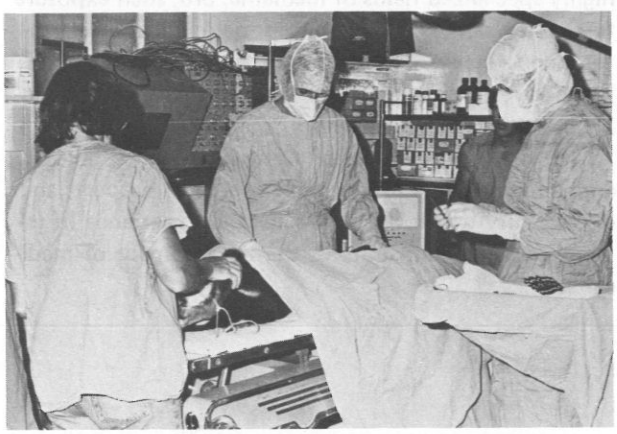
The opinions or assertions contained herein are those of the author and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large.

CENTER OF ACTIVITY.—Naval Regional Medical Center Oakland, Calif., is home for one of the Medical Department's renowned Clinical Investigation Centers.

A new dimension was added to CIC research by the psychosocial studies of LT M.J. Horowitz, MC, USN, who examined psychiatric and social changes during and after periods of isolation. His observations contributed greatly to the then developing space program.

A 4th area of research examined factors contributing to the development of emphysema in horses. Conducted jointly with the School of Veterinary Medicine, University of California at Davis, these investigations continued through the 1960s, and helped achieve greater understanding of this disease in humans.

In 1968, after completing a fellowship in endocrinology at the Massachusetts General Hospital, LCDR Richard Weinstein, MC, USNR began a 5-year term as CIC director. During his tenure, his interest in steroid hormone production in the male gonad led him to make important contributions in the study of hormone production by the testis, and to add significantly to the methodology of steroid assay.



CLINICAL TRAINING.—In the Clinical Investigation Center animal laboratory operating room, surgical residents are trained in the latest investigative techniques.

In 1969 LCDR Richard Reitz, MC, USNR, also fresh from an endocrinology fellowship at the Massachusetts General Hospital, joined the CIC staff. His main area of interest was the interaction of parathyroid hormone, Vitamin D, and calcium, and he introduced to the Center an accurate method of assaying parathyroid hormone levels in the blood. During his 4 years at the CIC, LCDR Reitz applied this assay to numerous investigations into the interactions of calcium and parathyroid hormone in health and disease; with his help, Nav Hosp Oakland became a center of parathyroid surgery.

CURRENT CAPABILITIES AND EFFORTS

Basic patient-oriented research in areas of endocrinology, metabolism, nephrology, and hepatology continues to be accomplished at the CIC, now under the direction of CDR J.D. Wallin, MC, USN. Since 1968 the Center has been located in 1 wing of the top floor of the hospital. Extra space and increased funds permitted the acquisition of modern, sophisticated equipment vital to a research effort. At the present time, the Center has the equipment necessary to count gamma and beta emitting isotopes, and to perform gas-liquid, column, and paper chromatography. In addition, there is a large, fully equipped animal facility, and a fine metabolic ward complete with laboratory, nursing staff, and dietitian.

RADIOIMMUNOASSAY.—In the main research laboratory of the Clinical Investigation Center, a technician conducts radioimmunoassay studies.

Current efforts are concentrated in 4 areas of research:

Lipids and metabolic stress. These studies emphasize newer methods of weight reduction and control, and concentrate on the many unknown facets of diabetes. Insulin action and striated muscle glycogen

DOWN TO BASICS.—In the metabolic ward laboratory, basic blood chemistry determinations are performed for patients participating in research studies.

concentration in the normal and diabetic rat, in response to carbohydrate or lipid as a fuel, are currently being studied. This research program is headed by LCDR Stephen B. Lewis, MC, USNR, assistant director of the Center, who also helps guide the Endocrine Fellow through his 1st-year research efforts.

Steroids and radioimmunoassay. Conducted by LCDR Peter A. Lee, MC, USNR, this research program involves the evaluation of pituitary, adrenal, and gonadal hormone production in normal and diseased persons. Particular projects are aimed at discovering:

- The control of adrenal hormone production, particularly the relationship with pituitary trophic hormones.
- The pattern of change of hormone production at the onset of adulthood.
- The controlling factors of testosterone production.

Several publications and presentations at national scientific meetings have resulted from these investigations, in which radioimmunoassays are used to measure the various steroids and trophic hormones.

Hepatology. Headed by LCDR Neil Kaplowitz, MC, USNR, investigators in the hepatology program are currently characterizing a group of hepatic enzymes known as the glutathione S-transferases. The investigators have shown a striking similarity between the molecular weight and organic anion-binding properties of these enzymes, and the organic anion-binding protein, ligandin. Studies also have shown that this group of enzymes can be induced by phenobarbital. Moreover, investigators have identified these enzyme activities in the kidney, and have shown that para-aminohippuric acid, probenecid, and aspirin are competitive inhibitors of these enzymes. Thus, a dual role may be proposed for these enzymes: (1) specific enzymatic functions, and (2) a "nonspecific" transport function as a group of cytoplasmic acceptors in hepatic and renal transport of organic anions.

Nephrology. Current investigations being carried out under the nephrology program include:

- Study of the possible nephrotoxic activity of cyclophosphamide and azathioprine, 2 drugs used in renal transplants.
- Free water studies to evaluate the mechanism of action of furosemide and the effects of divalent cations on the kidney.
- Studies to determine the effects of various pathophysiologic maneuvers on the intrarenal distribution of blood flow.

CIC personnel also support current research activities involving the anesthesiology, otolaryngology, orthopedic, surgical, obstetrical, medical, and psychiatric service of the hospital. Each professional staff member conducts weekly teaching rounds within his specialty, and participates in subspecialty clinics.

DEVELOPING FUTURE INVESTIGATORS

It is widely accepted that clinical research plays an integral role in medical education. This role is a consequence of several experiences: 1st, the student of medicine is exposed to logical, scientific thought processes; 2nd, he is placed in contact with experts in highly specialized fields of medicine; 3rd, such exposure fosters the development of potential clinical investigators; and finally, a vehicle is provided by which the fruits of research may be interrelated directly and rapidly with the day-to-day needs of the practicing physician. At the Clinical Investigation Center, residents, fellows, and staff members find the environment, support, and opportunity which they need to gain experience in research, and to contribute to the advancement of medical science.

How to Conduct a Dining-In

The formal military dinner ceremony known as "Dining-In" is a tradition that has been observed by military services in the United States and Europe for hundreds of years. Its origin dates back to the early 18th Century in Europe, where the officers of various regiments of the established monarchies would gather together for the sole purpose of an evening of good food, drinking, fellowship and the honoring of feats of individuals and organizations. Down through the years, as governments and military organizations became more sophisticated, the mess night became a definite part of the officers' routine social program. In this country, only slightly more than 30 years ago, Dining-In was a regular military social affair.

While the occasion for the mess night became less and less one of celebration of individual achievements within the particular command or service, the protocol of the event became more and more formalized. The uniforms prescribed were evening dress with orders and decorations. World War II forced many traditional social functions and the military dress to be set aside. Subsequent to the war, however, many traditional amenities of the mess were gradually restored. One of those that has been reestablished is the formal Dining-In.

The evening is sometimes called "Mess Night," "Regimental Dinner," or "Band Night." The general pattern, however, does not differ greatly. The primary elements are a formal setting, the comradeship of the members of the mess, a fine dinner, traditional toasts to the President of the U.S. and to the military services, martial music, and attendance of honored guests.

When no mess in the traditional sense exists, it is necessary to establish the "organization and regulations" of the mess for the purpose of the Dining-In.

There are two "officers" of the mess, the president and the vice-president. The president presides over the mess throughout the evening. The vice-president is normally the junior member of the mess. However, in messes which do not regularly dine together, the vice-president is appointed by the president, and he may be any member of the command who the president feels is well qualified to perform the tasks of "Mr. Vice." Traditionally, Mr. Vice is a person with keen wit and a fine sense of repartee who can be expected to stimulate table conversation. For this reason, *only Mr. Vice may address "items of interest to the mess members" without the president's leave.*

Because the mess is ordinarily closed to all except its members, the attendance of guests merits special mention. There are 2 types of guests: official and personal. Official guests are those individuals who are hosted by the mess. Their expenses are shared by all the members. The "guest of honor" will be either a distinguished civilian, a prominent foreign national, or a senior official of the U.S. Government. The remainder of the official guests are persons whom the mess so wishes to honor. In keeping with the military nature of the Dining-In, distinguished representatives of the other armed services are often invited as official guests of the mess. Personal guests may be invited only with the permission of the president.

THE PROTOCOL OF THE MESS

Preceding the dinner there is an open bar cocktail hour. The cocktail hour, which lasts for exactly 50 minutes, is intended to provide sufficient time for members to assemble before proceeding into the mess and

to afford them the opportunity to extend the hospitality of the mess to guests. "Prudent seamen husband the ship's stores during long voyages." A Dining-In is a social voyage of some duration. Careful sailors avoid "heavily laden passages." There will be sufficient time after dinner to completely satisfy any unquenched thirst of "voyagers."

It is customary for each member, on arrival, to greet the president of the mess. Although it is the specific duty of the president to greet each official guest as he arrives at the mess, it is also the duty of all members of the mess to introduce themselves and extend the amenities of the mess to the guests. At some time during the cocktail period, each member of the mess should make it a point to introduce himself to each of the official guests.

All members must be in the cocktail lounge at least 10 minutes prior to the hour fixed for dinner. Once seated in the mess, as in normal wardroom procedure, the president's "leave" must be requested to leave the table for any reason before he dismisses the mess.

At the signal for dinner, "Officers' Call" will be played followed by appropriate marching music. *Drinks or cigarettes will not be carried into the mess area.* Smoking is not allowed in the mess during the meal. At the completion of the march, all attendees except those seated at the head table, must have retired to the mess and have found their respective places at the table. They then stand quietly behind their chairs. *There will be no delay in moving into the mess.* Individual seating positions will be furnished before the evening of the Dining-In. They will also be posted in the cocktail area.

Those members to be seated at the head table will remain in the cocktail lounge area. When the president indicates that dinner is to be served, they will form in the order in which they are to enter the mess (i.e., the president with the honored guest on his right, followed by the next senior member, etc.). Just prior to entering, the president will inform the band leader that he may proceed with the ceremony; the band will strike up *Roast Beef of Olde England* and the president will then lead the guests into the mess. As soon as the last person to be seated at the head table has stopped and turned to face his place, the music ceases. The president will say grace and will then seat the mess with one rap of the gavel. No one may take his place at the table after the head table has entered without going up to the president of the mess and requesting permission to do so. Also, no one may leave the mess without similarly requesting leave of the president.

The backbone of a good dinner is amicable and friendly conversation. Each person is encouraged to enjoy himself to the utmost during the dinner hour, within respectable bounds. It is beneath the dignity of the mess to make any comment that might offend anyone present. However, "the naturally inquisitive nature of seamen" may from time to time provoke the calling of the attention of the entire mess to topics of timely interest. Mr. Vice will address the president and members of the mess on various matters for edification and entertainment during the course of the meal. Other members of the mess also wishing to contribute observations to the entire mess may do so *only after being acknowledged by the president.*

The formal dinner consists of 6 courses: appetizer, soup, fish, entree, salad, and dessert. Good wines are as much a part of a formal dinner as an entree, and appropriate dinner wines will be served. Should a member not desire wine, he or she should put a place card over the glass or inform the wine steward that no wine is desired. Toasting wine, presented after the conclusion of the meal, will be placed on the table. *Members of the mess serve the toasting wine themselves.* When serving the toasting wine, it should always be passed from right to left in a clockwise fashion. *Toasting glasses must be charged with port wine and at least raised to the lips; not to do so would be an insult to those being toasted.*

DINING-IN TOASTS

A toast is the traditional and formal way of honoring a country, an organization, or an institution. *Toasts are never drunk to individual persons by name.*

Following dessert and coffee, Mr. Vice will announce to the president, "The wine is ready to pass, Sir." *Do not drink the port yet. Do not smoke.* The important thing to remember when passing port is that the bottle must never rest on the table until the last glass at the individual table is charged, and that each glass is charged whether the member drinks or not. As the bottles are emptied, the member having an empty bottle will raise it to indicate that a replacement is needed. When a bottle has reached the end of the table and the last glass is charged, it may be set down.

When all glasses are charged, the president will rise and call for a toast to the Commander-in-Chief. Mr. Vice seconds this by rising and addressing the mess saying, "Gentlemen, the Commander-in-Chief of the United States." Each member and guest then stands, repeats in unison the toast (e.g., "The Commander-in-Chief of the United States"), sips the drink, and remains standing. The band then plays *Hail to the Chief.* At the conclusion of the music, members and guests are again seated.

Immediately after the first toast, the president will call for the smoking lamp to be lighted. Mr. Vice will present a lighted ceremonial lamp to the president, who in turn will offer the light to honored guests. After the lamp has passed the president, he will announce, "The smoking lamp is lighted." Smoking may now commence throughout the mess. Cigars will be distributed to each table with the port.

Thereafter, the president may either personally call for specific toasts or may recognize a member of the mess to do so. If the president calls for a toast, Mr. Vice will second it. If a member of the mess is recognized for the purpose of proposing a toast, the president will second it. Do not "bottoms-up" your drink on each toast. "Bottoms-up" is expected only on the toast to the U.S. Navy, the last of the evening. *Do not be caught in the lubberly position of having an uncharged glass!*

Formal toasts will be drunk in the following order:

The Commander-in-Chief
The United States Marine Corps
Missing comrades
Chief of Naval Operations
Informal toasts
The United States Navy (final toast)

After the initial formal toasts, the president will introduce the guest of honor, who will address the mess. Following this address, informal toasts will be received from members of the mess. When in the judgment of the president the informal toasting has sufficed, he will rap thrice with the gavel and commence the business of the mess. Then the president will, without rising, call for a toast to the U.S. Navy. He will stand while Mr. Vice seconds the toast. Before seconding, Mr. Vice proceeds to the head table and fills each glass starting from honored guest and ending with the president. The president then fills Mr. Vice's glass who faces the mess and seconds the toast. All present rise, responding in unison, "The United States Navy," drain the entire glass, and remain standing while *Anchors Aweigh* is played.

Following the toast to the United States Navy, the president will invite those present to join him at the bar. Attendees should remain at their places until the head table has left the mess. The bar will be open for purchase of refreshments, and members and their guests will be free to congregate. Attendees should not depart until the president and all official guests have departed.

Despite its formality and ritual, Dining-In is intended to be an enjoyable and enriching experience. Those who have attended previous Mess Nights have found them so and it is hoped this tradition will continue.

SAMPLE DINING-IN PROGRAM

1900 All members arrive for cocktails.

1950 The bar is closed. All members should refresh themselves at this time, as no one is permitted to leave the dining room until dinner is completed, without permission of the president.

2000 "Officers' Call" followed by marching music played while all except the head table proceed to assigned places.

2005 The president of the mess leads the head table of officers to the dining room while the band plays *Roast Beef of Olde England*. The band stops when all the head table are in place, and the president will recite grace. After grace the president seats the mess with one rap of the gavel. The gavel in possession of the president will be used to signal the members throughout the evening:

One rap seats the mess.

Two raps causes the members to rise.

Three raps requires the members' attention.

2010 Opening remarks by the president of the mess.

2015 Dinner is served.

The president will approve of the wine and will signal his approval before it is served.

Dessert and coffee are served.

After the decanters of port have been placed on the tables, Mr. Vice reports to the president: "The wine is ready to pass, Sir." The president and senior member at each table then pass the decanters one at a time to their left. The president and other members passing the decanters do not help themselves before passing the decanters. The decanters should be at least one place apart during their trip around the tables and should never be allowed to "pile up" beside a diner.

Formal toasts commence as soon as all glasses are charged.

The president stands, raps the gavel thrice: "Mr. Vice, the Commander-in-Chief of the United States." (Raps twice with the gavel.) Members rise.

Mr. Vice: "Ladies and gentlemen, the Commander-in-Chief."

Band: *Hail To The Chief*.

Members: "The Commander-in-Chief."

The president raps the gavel once (seats).

Following this traditional loyalty toast, cigars will be passed and ashtrays placed on the tables. The lighting of the smoking lamp will be announced by the president.

Four additional formal toasts will be conducted in the same manner. There will be an interval between all toasts to allow recharging of the wine glasses. Glasses should not be drained on any toast except the final one of the evening.

The president introduces the guest speaker.

Informal toasts. During this period any member of the mess who wishes to initiate a toast will stand and address the president. On being recognized the member will briefly present his justification for desiring such a toast, ending with the words of the proposed toast. Inspired wit and subtle sarcasm are much appreciated in these toasts. If the president deems the toast justified, he will direct Mr. Vice to second the toast in the same manner as in the formal toast.

The president conducts the business of the mess by asking Mr. Vice to read the list of offenders who have violated the customs and traditions of the mess. Fines and suitable payments are assessed as necessary by the president.

Formal toast to the United States Navy.

DINING-IN VIOLATIONS OF THE MESS

1. Untimely arrival at proceedings.
2. Smoking at table prior to the lighting of the smoking lamp.
3. Haggling over date of rank.
4. Inverted cummerbund.
5. Loud and obtrusive remarks in a foreign language or in English.
6. Improper toasting procedure.
7. Leaving the dining area without permission from the president.
8. Carrying cocktails into the dining room.
9. Foul language.
10. Wearing clip-on bow tie at an obvious list.
11. Being caught with an uncharged glass.
12. Rising to applaud particularly witty, succinct, sarcastic or relevant toasts, unless following the example of the president.

Adjournment. The president raps thrice for attention: "Ladies and gentlemen, please join me at the bar." (Members will rise and remain standing in place until the head table has left the dining room.)

MEDICAL AND DENTAL HISTORICAL ARTIFACTS SOUGHT

The curator of the Navy Memorial Museum has agreed to store and display historical artifacts of the Navy Medical Department.

Commands and individuals with medical and dental artifacts of historical significance are invited to donate or loan these items to the Navy Memorial Museum, particularly during the observation of the Bicentennial. Among the most desirable items for display are: uniforms, insignia, photographs, paintings, letters, command plaques, surgical instruments, old medical and dental equipment, old medical and dental papers, rare books and journals, and other documents.

Artifacts should be identified by name of item, historical period, and place of manufacture or use, if known. They may be forwarded to:

Receiving Officer
Supply and Fiscal Department
Washington Navy Yard
Washington, D.C. 20374

Items should be marked for:

Curator for the Department of the Navy
c/o Navy Memorial Museum
Bldg 76, Washington Navy Yard
Washington, D.C.

SCHOLARS' SCUTTLEBUTT

Recently we directed your attention to your future in Navy graduate medical education programs, and provided you with a list of the names and telephone numbers of graduate medical education specialty program directors at various naval hospitals (*U.S. Navy Medicine* 65:47-51, Jan 1975).

We again encourage you to contact these program directors to arrange a visit or clerkship, if possible. For your convenience, 1st-year graduate medical education positions available in the Navy during the 1976-1977 training year are listed in Table 1.

Complete instructions and forms for applying for Navy graduate medical education programs will soon be sent to eligible students. This information will also appear in "Scholars' Scuttlebutt." Remember, all Navy-sponsored students in the Armed Forces Health Professions Scholarship (AFHPS) Program are required to apply for training in Navy graduate medical education programs.

Based on our experience last year, we anticipate that 50%, and possibly up to 65% of all applicants from the AFHPS Program will be accepted for graduate training in Navy medical facilities. This percentage varies because over 70 of the 230 1st-year graduate training positions are available to active-duty physicians as well as to students.

Students not selected for training in Navy medical facilities will be allowed to complete at least 1 year of graduate medical training in civilian hospitals. Students may be allowed to continue civilian training if their specialty fulfills anticipated requirements of the Navy.

More information about this policy will appear in "Scholars' Scuttlebutt." Meanwhile, take an honest and realistic look at our Navy graduate medical education programs. If they meet your needs, go after them.

For further information, contact the following individuals at the Bureau of Medicine and Surgery, Washington, D.C.:

Mr. C.B. Mohler
(Area code 202) 254-4339

CAPT W.M. McDermott, Jr., MC, USN
(202) 254-4280

CAPT S. Barchet, MC, USN
(202) 254-4279

In Table 2 we continue the list of our subsidy students located at various schools, publication of which began with the Nov 1974 issue of *U.S. Navy Medicine*.

TABLE 1.—SPECIALTY AND NUMBERS OF PROGRAMS OFFERED IN GRADUATE MEDICAL EDUCATION TO GRADUATING STUDENTS DURING THE 1976–1977 TRAINING YEAR

NAVAL HOSPITAL	ANES C/CD/F	DERM C/CD/F	FAM.P C/CD/F	IN.MED C/CD/F	NEURO C/CD/F	OBGYN C/CD/F	OPHTH C/CD/F	ORTHO-S C/CD/F	OTO C/CD/F	PATH C/CD/F	PEDS C/CD/F	PSYCH C/CD/F	RADIO C/CD/F	SURG C/CD/F	URO C/CD/F	NEURO-S C/CD/F	TOTAL
CAMP PENDLETON, Calif.	- - -	- - -	9 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	9
CHARLESTON, S.C.	- - -	- - -	9 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	9
JACKSONVILLE, Fla.	- - -	- - -	9 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	9
PENSACOLA, Fla.	- - -	- - -	6 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	6
BETHESDA, Md.	- - 2	- - 1	- - -	4 4 -	- - 2	3 - -	- - 2	- 2 -	- 1 -	3 - -	3 - -	- 4 -	- - 2	2 2 -	- - 1	1 - -	39
OAKLAND, Calif.	- - 4	- - -	- - -	3 1 -	- - -	3 - -	- - 2	- 2 1	- - 3	2 - -	3 - -	3 - -	- - 3	- 3 -	- - 1	- - -	34
PHILADELPHIA, Pa.	- - 2	- - 2	- - -	6 2 -	- - -	2 - -	- - 2	- 1 1	- - 2	- - -	2 - -	4 - 1	- - 3	1 1 -	- - 1	- - -	33
PORTSMOUTH, Va.	- - 2	- - -	- - -	6 6 -	- - -	6 - -	- - -	- - 3	- - -	2 - -	5 - -	- - -	- - -	2 2 -	- - 2	- - -	36
SAN DIEGO, Calif.	- - 4	- - 2	- - -	12 - -	- - -	4 - -	- - 3	- 4 -	- - 3	3 - -	5 - -	- - -	- 4 3	- 4 2	- - 2	- - -	55
TOTAL	14	5	33	44	2	18	9	14	9	10	18	12	15	19	7	1	230

KEY:

C = Categorical: 12 months in a single discipline. Programs in pediatrics, pathology, obstetrics and gynecology, psychiatry, and family practice are 1st-year residencies/internships.

CD = Categorical Diversified: at least 6 months in the listed specialty, plus other rotations.

F = Flexible: at least 4 months in medicine, plus other rotations.

– = Program is not offered at the hospital.

SPECIALTY ABBREVIATIONS: ANES = Anesthesiology; DERM = Dermatology; FAM.P = Family Practice; IN.MED = Internal Medicine; NEURO = Neurology; OBGYN = Obstetrics/Gynecology; OPHTH = Ophthalmology; OTO = Otolaryngology; ORTHO-S = Orthopedic Surgery; PATH = Pathology; PEDS = Pediatrics; PSYCH = Psychiatry; RADIO = Radiology; SURG = Surgery; URO = Urology; NEURO-S = Neurosurgery.

SPECIAL NOTE: Categorical programs in pediatrics, pathology, obstetrics and gynecology, psychiatry, and family practice are 1st-year residencies/internships. Upon reporting for duty, all other trainees will be told how to apply for training beyond the 1st-year level.

TABLE 2.—STUDENTS PARTICIPATING IN THE 1975 PROGRAM (partial list, continued)

Medical School Group	*Class of*
ALBANY	
HOWARD, Richard K.	'77
NANFRO, John J.	'77
NEAL, George B.	'76
PESCE, Richard R.	'76
COLUMBIA	
COONLEY, Craig J.	'77
CORNELL UNIV.	
FORMAN, Samuel D.	'77
LARNED, David C.	'77
MC MAHON, Patrick V.	'77
CREIGHTON UNIV.	
BAILEY, William J.	'75
BURNETT, Robert J.	'75
HAERR, Robert W.	'76
HALEY, Roger J.	'75
HARRIS, Martin H.	'76
KREUZER, Robert F.	'77
LEVINSKY, Howard	'76
MATE, Timothy P.	'76
PITROWSKI, William C.	'75
RAE, Ronald P.	'77
SANCHEZ, Robert B.	'75
SANDER, Rickie P.	'76
SYMONDS, Timothy R.	'77
ZAHLLER, Mary C.	'76
ZAHLLER, Steven J.	'76
DARTMOUTH COLLEGE	
THOMPSON, Craig B.	'77
EINSTEIN	
DUTKA, Andrew J.	'76
KIRKSVILLE COLLEGE OF OSTEOPATHY AND SURGERY	
ARNOLD, Paul "J"	'76
BARTOW, John H., II	'76
BLACK, Keith N.	'76
BOSLEY, Carl G.	'76
BOWERS, Richard K.	'76
BURNETT, William E.	'76
CARPENTER, Richard M.	'76
CHANDLER, Kirk A.	'76
CLEAVER, Lloyd J.	'76
HARPER, Walter D.	'76

Medical School Group	*Class of*
KIRKSVILLE (Con.)	
KALUZA, Charles L.	'76
OMLEY, Timothy H.	'76
PFLAUM, Byron C., II	'77
THOMAS, Douglas C., Jr.	'77
UPTON, Robert H.	'75
WALSH, Vincent I.	'76
WILKERSON, Leonard A.	'76
UNIV. OF MISSOURI, COLUMBIA	
CARLSON, Eric J.	'75
CARRON, Michael J.	'76
DEARDRUFF, Dwight L.	'76
HANSER, James A.	'76
PATTERSON, Donald C.	'75
SEARS, Carolyn M.	'75
SEARS, Thomas D.	'75
SELLERS, Robert W.	'76
SHELLY, William C.	'76
SMITH, Kenneth D.	'77
WITTGROVE, Alan C.	'76
UNIV. OF MISSOURI, KANSAS CITY	
DAILY, James M.	'76
PARKER, Kim E.	'76
UNIV. OF NEBRASKA	
ANTHONY, Marion D.	'75
BRESNAHAN, Dennis R., Jr.	'75
DEMUTH, David F.	'75
FINKNER, John M.	'75
KLEINE, Michael L.	'75
OLSSON, Roger B.	'75
RIFE, Daryl C.	'76
SULLIVAN, Michael T.	'75
WAGNER, Charles J.	'75
ZIMMERMAN, Thomas A.	'77
UNIV. OF NEVADA	
HANSEN, Harold W.	'77
JACOBSON, Roger E.	'77
JOHNSON, David H.	'76
JULIEN, Craig	'76
KNIGHT, Melvin J.	'76
SCHUMACHER, Mark	'75
NEW JERSEY	
HODGKISS, James J.	'75
KOUMJIAN, Michael P.	'77

Medical School Group	*Class of*
UNIV. OF NEW MEXICO	
EVANS, Kurt J.	'75
HARRIS, Christopher J.	'76
LUHN, Roderick F.	'77
NORRIS, Barbara G.	'77
SPAULDING, Lyman B.	'75
NEW YORK MEDICAL COLLEGE	
AULICINO, Pat L., Jr.	'75
BOYD, John T.	'75
CHOPLIN, Neil T.	'76
KLEIN, Robert M.	'76
POWERS, Bernard J.	'77
PRATT, Randall N., Jr.	'75
RIGTRUP, Edward D.	'75
STEVENS, Jonathan C.	'76
NEW YORK UNIV.	
MILLER, Christine K.	'77
ROCHESTER	
MURRAY, Thomas A., III	'75
TAYLOR-TYREE, Gill M.	'76
RUTGERS UNIV.	
ALEXANDER, Victor	'76
ST. LOUIS UNIV.	
ALWAY, Paul R.	'77
CAMPBELL, David C.	'76
CRUDALE, Angelo S.	'76
DHALIWAL, Brenda Sue R.	'76
FREDERICKS, Michael R.	'77
FREEMAN, Charles G.	'76
GRECO, Timothy G.	'76
IVANCIC, Milan E., Jr.	'75
JACOBS, Richard D., Jr.	'76
JAMES, Lewis P.	'76
JAMIESON, Thomas W.	'76
JONES, John P.	'76
KINCAID, William L.	'75
KLEIN, Michael K.	'76
KOPP, Kenneth R.	'75
KRAFCIK, John M.	'76
LESSMANN, Gary P.	'76
LEY, Carl E.	'77
MOED, Berton R.	'76
NEWCOMER, John A.	'76
POTTER, Bonnie M.	'75
PROPHETE, Robert Y.	'76
PROSSER, John S.	'76

Medical School Group	*Class of*
ST. LOUIS UNIV. (Con.)	
SCHMIDTKNECHT, Thomas M.	'75
SCHNEIDER, Paul G.	'76
STOMBAUGH, Dana D.	'75
SULLIVAN, Robert S.	'75
UMBRECHT, Alan C., Jr.	'76
WESTMEYER, Frank C.	'75
WIGNALL, Frank S.	'75
YETTER, John T.	'75
SUNY, BUFFALO	
ANTOINE, Gregory A.	'76
BEATY, Robert H.	'76
JAMES, Carmen D.	'76
LAZORITZ, Stephen	'76
LEVITT, Stephan M.	'76
METILDI, Leonard A.	'76
POWELL, Jeffrey P.	'75
RAY, Joel W.	'77
SPURLING, Timothy J.	'76
WASHINGTON UNIV., ST. LOUIS	
FLINT, Colleen K.	'76
LAMMERT, Gary R.	'77
METCALF, John H.	'76
MEYER, David A.	'75
ROHR, William L., Jr.	'75

• PILOT •

From two Dutch words "Peil" (to mark with pegs) and "Loth" (lead). Strangely enough the name was conferred on persons who could navigate a vessel into port without the use of the "Peil-loth" (lead line).

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MOONLIGHTING

Within recent years, and especially in the past few months many have heard my views on the subject of moonlighting, also called remunerative professional civilian employment (off-duty). This subject has high visibility, and has attracted intense attention and interest. Moonlighting has been discussed widely in Congressional testimony, in the Bureau's Policy Council meetings, among and within commands, within offices of OPNAV, by The Inspector General, and particularly among our health-care beneficiaries, just to mention a few. Moonlighting was a major agenda item at the Surgeon General's Biennial Conference and the Specialties Advisory Committees' meetings, both held in Sep 1974.

In response to this interest, I recently convened a committee to study, review, and evaluate the diverse and complex aspects of this issue. The members of this committee were selected from various offices in our Navy community and included representatives from the Office of the Judge Advocate General, Bureau of Naval Personnel, Office of the Assistant Secretary of the Navy (M&RA), and the various communities of the Navy Medical Department. This committee forwarded a report of its deliberations, findings, and recommendations to me. The report has been reviewed at length within the Bureau; the principal sense of the recommendations has been approved, and will be implemented with issuance of a revision to the Manual of the Medical Department 1-22 and an implementing BUMED Notice.

I would like to share with you the background and the intent leading to the forthcoming publication of guidance for, and regulation of, remunerative professional civilian employment (off-duty).

The officers of our Medical Department share a long and profound heritage, that of dedication to provide health-care services. The resultant obligations remain today, imposing a most difficult and trying challenge. The demands for our services have never reached such a high level, and our dedication must not be found wanting. Foremost in our demonstration of dedication to purpose is a twofold responsibility: service to our beneficiaries, and to the Navy in which we serve. As members of an all-volunteer force, our demonstrated responsibility can reflect nothing less than a wholehearted devotion to clinical service. The transition to an all-volunteer force has brought substantial personal advantages to our officers, not the least of which has been attainment of long sought financial incentives. Many of our facilities have been measurably improved, with further improvements imminent. The latest equipment has been made available in unprecedented amounts. I believe our system of military health service is unequaled, anywhere.

There is little need for me to document evident abuses and increases in the practice of moonlighting in our service. Most of you can cite personal knowledge of colleagues whose preoccupation with off-duty employment precluded maximal exercise of responsibility toward, and performance on behalf of, our patients. To this end, the problem of moonlighting is not unique to military medical departments. In full recognition of this problem, the Association of American Medical Colleges has recently published both a policy statement and a recommendation to the Liaison Committee on Graduate Medical Education. This statement reads, in part: "Moonlighting by house officers is inconsistent with the education objectives of house officer training, and is therefore a practice to be discouraged." In consonance with the foregoing, it is my desire that moonlighting by our Medical Department

officers be discouraged. Moreover, officer trainees in all our formal, approved, Medical Department education and training programs will be prohibited from moonlighting.

The complete details for guidance, and the regulations which will promulgate this policy will be issued in the forthcoming revision of the Manual of the Medical Department, and will be promulgated in a BUMED Notice. I urge you to carefully read and fully understand the provisions which are designed to control moonlighting. In brief, the measures enacted will require primary control of off-duty employment by commanding officers, through mechanisms which will ensure full knowledge of all such practices, both by commands and by those persons who desire to pursue moonlighting. Summaries of these practices will be submitted to the Bureau. The data provided will be compiled, collated, and evaluated; this will provide a sound basis for an improved understanding of staffing requirements, and the fulfillment of complete responsibility for the patients we serve.

I urge full compliance with the sense and intent to control moonlighting. There is no greater illustration of satisfaction in performance than complete dedication to the mission of the Navy Medical Department. — BUMED Code 1.

FLEXIBLE ENLISTED WORKWEEK SYSTEM

A study undertaken at NAVREGMEDCEN Oakland, Calif., to identify command policies detrimental to the retention of enlisted personnel indicated that the largest number of complaints centered on the watch system. Analysis of study data revealed that, at Oakland, the old Navy watch system has reached a point of diminishing returns. As a result, a flexible enlisted workweek was successfully developed and tested.

Basically, the system is a decentralized one where control, coordination, and responsibility rests with the chiefs of services. The various coverage systems in use are difficult to explain, since each chief of service devises his own watch system with assistance from the chief of military personnel. However, the 5 basic types of coverage are:

1) *AM/PM/Night Rotation.* The same concept utilized by the nursing service for a number of years.

2) *Regular Watch System.* The old concept, modified to give compensatory time off. Use of this system is minimal.

3) *Twelve-Hour Four-Day System.* Personnel are divided into 4 sections. Two sections work 12-hour shifts each day for 4 days, then are off for a 4-day period. Day shift hours are 0600-1800; the night shift is 1800-0600. This system has proven valuable in several areas, especially in the laboratory and the officer-of-the-day's office.

4) *Four-Forty System.* Personnel are divided into 2 sections: 1 section works 10-hour days on Monday, Tuesday, Wednesday, and Thursday of each week; the other section works Thursday, Friday, Saturday, and Sunday. Sections overlap on Thursday.

5) *Forty-Hour System.* This basic concept of 40 hours, Monday through Friday, is used where weekend and evening coverage is not necessary.

Institution of the Flexible Enlisted Workweek System at Oakland has provided a great deal of continuity and flexibility, while eliminating the superfluous watches that were so disliked. Copies of the Oakland report, "The Flexible Enlisted Workweek System," are available from: CO, NAVREGMEDCEN Oakland, Calif.

While this successful program may be of value to other activities, of equal importance is Oakland's advice that activities should be receptive to new ideas, and should utilize more than 1 individual in problem-solving areas. — BUMED Code 1.

DENTAL DEFECTS IN MEMBERS ASSIGNED TO REMOTE OR RECRUITING DUTY

The *Enlisted Transfer Manual,* NAVPERS 15909B, art. 11.044, states that an individual's transfer to recruiting duty will not be effected until a dental officer has conducted a Type II dental examination, and an entry has been made on the individual's SF 603 to the effect that dental treatment, including dental prosthetic restorations, is not required. In addition, the *Manual of the Medical Department,* art. 15-50(2), states that members ordered to remote or isolated duty stations should have no physical or dental defects which are likely to require extensive or prolonged treatment. Priority for needed medical or dental treatment shall be given to personnel scheduled for such assignments, in order to meet the anticipated transfer date. Dental treatment must be accomplished, to the maximum extent possible, prior to transfer of personnel to duty assignments where dental services must be obtained from non-Federal sources at excessive cost to the Navy, and with resultant loss of manhours from primary functions.

Commands must insure compliance with the established examination requirements. Liaison must be developed and maintained between medical, dental, and personnel departments at transferring activities, in order that information concerning an impending transfer to remote or recruiting duty is provided in time to

accomplish examination and completion of essential dental treatment. — BUMED Code 1.

FREEDOM OF INFORMATION AND INDIVIDUAL PRIVACY

Two laws were recently enacted by the 93rd Congress which impact on Navy administrative and personnel procedures relating to the release of information.

Public Law 93-502 amends 5 U.S.C. 552 (Freedom of Information Act). The amendments provide for:

- Time limits for responding to requests for information. Activities must make decisions on requests for information within 10 working days, with provision for an extension of 10 additional working days.
- Expansion of document indexing and public inspection requirements.
- A hearing in Federal District Court, with authority for the judge to inspect classified material in private to determine whether it meets the criteria of the Executive Order authorizing its classification.
- Assessment of attorney's fees for a successful plaintiff, and disciplinary action against Government employees who arbitrarily or capriciously withhold records.

Department of Defense (DOD) Directive 5400.7 and SECNAV Instruction 5720.42A are being redrafted to reflect the law, which was effective 19 Feb 1975. The primary impact of this legislation will be more stringent time limits for releasing information. Accordingly, existing procedures for handling Freedom of Information requests should be reviewed and updated promptly, upon receipt of implementing directives, to comply with the new law.

The 2nd legislative action, Public Law 93-579, 5 U.S.C. 552A, relates to privacy procedures. Subject to certain exemptions, this law will:

Allow an individual to discover what records pertaining to him will be collected, maintained, used, or disseminated by a Federal agency.

Permit an individual to prevent records pertaining to him which were obtained for a particular purpose from being used or made available for another purpose without his consent.

Permit an individual access to these records, and allow him to request corrections or amendments.

Require that Federal agencies insure that identifiable personal information is used for a necessary and lawful purpose, and that adequate safeguards are provided to prevent misuse of the information.

Subject personnel who willfully violate the Act to criminal sanctions.

Establish a Privacy Protection Study Commission.

The impact of the privacy law, which is effective 1 Oct 1975, is not yet established, but may be significant. Navy implementing directives will be promulgated as soon as possible following receipt of DOD guidance. Further information concerning impact and requirements will be provided as appropriate. — BUMED Code 211.

SINGLE MANAGER CONCEPT FOR FLEET SUPPORT

A new system for providing medical care to naval personnel in ships at sea will soon be tested by the Navy Medical Department.

Under the new concept, to be tested in pilot programs on the east and west coast, a pool of 5 medical officers will be assigned additional duty to a specific ship for a 2-year period.

During the ship's deployment, 1 physician from the pool will serve on board for no more than 90 days. Longer deployments will be split between 2 or more pool physicians.

Upon completion of his pool assignment, the physician will return to the naval regional medical center to which he is primarily attached. Subsequent requirements for medical support will be met by the remaining pool members in rotation.

The east coast pilot program involves naval regional medical centers at Philadelphia, Pa.; Bethesda, Md.; Camp Lejeune, N.C.; and Portsmouth, Va. The program encompasses ships in Surface Forces Atlantic (SURFLANT), particularly in Amphibious Forces Atlantic (PHIBLANT).

The pilot program on the west coast includes naval regional medical centers at San Diego, Camp Pendleton, and Long Beach, Calif. Medical officers will be assigned to ships in Surface Forces Pacific (SURFPAC), particularly in the Cruiser Destroyer Force Pacific (CRUDESPAC) type command.

Following a trial period, the medical single manager concept will be extended to the remainder of the fleet.

All Navy medical specialists are eligible for pool assignment. Under the new concept, a physician might serve aboard a ship 3 or 4 times during a 20-year career in Navy medicine. — BUMED Code 31.

MEDICAL DISPOSITION AND PHYSICAL STANDARDS NOTES

Published annually by the Physical Qualifications and Medical Records Division (BUMED Code 33), *Medical*

Disposition and Physical Standards Notes contains useful information about the physical standards required for entry into the Navy. The intricacies of Medical Board evaluations and physical disability determinations are also discussed, and guidelines are given for the disposition of frequently encountered physical conditions which may cause administrative difficulties.

Medical Disposition and Physical Standards Notes replaces *PQ&MR Notes.* Copies of the new publication are sent to the administrative officer of each medical command, regional medical center, and other selected medical facilities, for distribution.

The staff of BUMED Code 33 encourages calls from the field when problems arise. A list of names and telephone numbers to contact for specific problems is given in *Medical Disposition and Physical Standards Notes.* General questions may be referred to: Autovon 22-75602; Commercial (Area code 202) 697-5602. — BUMED Code 33.

CLINICAL NUCLEAR MEDICINE TECHNICIAN TRAINING

Effective with the class convening 5 May 1975, the Navy training program for clinical nuclear medicine technicians (HM-8416) will be officially recognized as a 52-week course which imposes an obligation of 54 months of service from class convening date.

Training is accomplished in 2 phases: Phase I, the didactic or classroom phase, is a 16-week program conducted by the Health Sciences Education and Training Command (HSETC), National Naval Medical Center (NNMC), Bethesda, Md. Phase II consists of supervised clinical training at one of the following sites: HSETC, NNMC; Naval Regional Medical Centers, Portsmouth, Va., and Oakland, Calif.; and Naval School of Health Sciences, San Diego, Calif.

Certificates of graduation will be issued upon completion of Phase II training, instead of at the end of Phase I training as is the current policy.

Clinical nuclear medicine technicians assist in the organization and administration of nuclear medicine clinics, and help Navy physicians prepare and conduct clinical nuclear medicine procedures. They also operate and maintain clinical nuclear medicine instrumentation.

Candidates for training must be in pay grades E-4, E-5, or E-6, and must have a combined score of 110 on the General Classification Test and Arithmetic Aptitude Examination. Applications for admission to the program should include a list of the applicant's education in science and mathematics. A report of the applicant's physical examination — including medical history, chest X-ray, baseline blood studies, and clinical laboratory studies and bioassay as indicated — must be submitted. — BUMED Code 34.

FY 1975 MEDICAL MILITARY CONSTRUCTION APPROVED

Congress has approved projects totaling $76,171,000 for the Navy Medical Military Construction Program for Fiscal Year 1975. Included among the approved projects are:

National Naval Medical Center, Bethesda, Md.
- Tower fire protection
- Parking and utilities modification
- Public works shops
- Medical warehouse
- Roads

Nav Hosp Beaufort, S.C.
- Hospital modernization

NAVREGMEDCEN Camp Lejeune, N.C.
- Air conditioning of dispensary and dental clinic at Hadnot Point

NAVREGMEDCEN Camp Pendleton, Calif.
- Headquarters dispensary
- Dispensary addition at Delmar
- Dispensary and dental clinic at Edson Range

MARCORB Camp Pendleton, Calif.
- Dental clinic at Camp San Onofre

NAVREGDENCEN Charleston, S.C.
- Dental clinic

Naval Weapons Center, China Lake, Calif.
- Dispensary and dental clinic

NAVREGMEDCEN Jacksonville, Fla.
- Hospital modernization
- Dispensary and dental clinic at NAVSTA Mayport
- Dispensary and dental clinic at NAS Cecil

Nav Hosp Lemoore, Calif.
- Medical storage building

Nav Hosp Memphis, Tenn.
- Dispensary and dental clinic at NAS Memphis

NAS New Orleans, La.
- Dispensary and dental clinic addition

NAVREGMEDCEN Philadelphia, Pa.
- Fire protection

Naval Construction Battalion Center, Port Hueneme, Calif.

Dental clinic replacement

NAVREGMEDCEN Portsmouth, Va.

Hospital modernization, Phase I

Dispensary replacement at NAVSTA Norfolk (Sewell's Point)

Dispensary and dental clinic at NAS Oceana

NAVREGDENCEN San Diego, Calif.

Dental clinic and dental technicians' school

— BUMED Code 4.

MEDICAL OFFICER RETENTION

Chiefs of staff and personnel officers are reminded that medical officers attached to operational commands, who form the backbone of fleet support and who are often prime candidates for naval careers, are also the most inaccessible to BUMED headquarters and Medical Department commands. Fleet authorities should discuss retention on active duty (RAD) with those medical officers whom they feel are an asset to the naval service. Pertinent topics for discussion include the possibility of a further operational tour, rotation to the shore establishment, or application for a Navy postgraduate training program. Discussions should be held 6-12 months before the medical officer is scheduled for RAD.

If guidance or assistance is required, BUMED Code 5 (Assistant Chief for Operational Medical Support) will serve as a contact point.

Commanding officers are invited to submit to the following cognizant BUMED divisions the names of medical officers whose retention is considered desirable: Code 51 (Aerospace Medicine); Code 52 (Surface Medicine); Code 53 (Undersea Medicine); Code 54 (Fleet Marine Force Medicine). — BUMED Code 5.

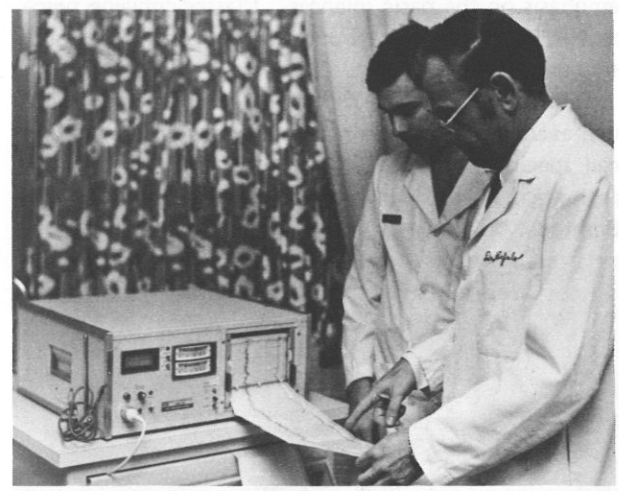
REMOTE MEDICAL DIAGNOSIS SYSTEM

In cooperation with the Naval Electronics Laboratory Center, San Diego, Calif., the Navy Medical Department is studying the feasibility of using a communication system to transmit medical data, plus audio and video information, from ship to ship, and ship to shore. If successful, the system could upgrade the capability of independent duty hospital corpsmen, giving them access to the diagnostic skills of medical specialists located at remote sites.

Tests of the system will involve transmission of medical data between the USS *Juneau* (LPD-10), the USS *Alamo* (LSD-33), and NAVREGMEDCEN San Diego. It is anticipated that the tests will begin in Apr 1975, and will require 4-6 months, or longer, for completion. — BUMED Code 52.

CAPT CEFALO EARNS PH.D. IN PHYSIOLOGY AND BIOPHYSICS (MATERNAL-FETAL MEDICINE)

When CAPT Robert C. Cefalo, MC, USN recently graduated with distinction from Georgetown University, Washington, D.C., he became the 1st Navy physician to earn a Ph.D. degree in physiology and biophysics, in the specialty of maternal and fetal medicine, under a BUMED-sponsored fellowship.



MATERNAL-FETAL MEDICINE.—CAPT R.C. Cefalo, MC, USN (right) and LT Frank Bergin, MC, USN study the graph produced by a fetal monitoring unit at NNMC. (Photo by HM1 Ken Dougherty, USN.)

Currently head of the Maternal-Fetal Medicine Division, Department of Obstetrics and Gynecology, National Naval Medical Center (NNMC), Bethesda, Md., CAPT Cefalo accomplished part of the research for his thesis with the support of the NNMC Clinical Investigation Program. Through experiments on a pregnant ewe, CAPT Cefalo attempted to determine how a fetus maintains its temperature in the uterus, and what stresses are brought to bear on the fetus when the mother is febrile.

Dr. Cefalo also worked with Andre E. Hellegers, M.D., director of the Joseph P. and Rose Kennedy Institute of Human Reproduction and Bioethics, Georgetown University.

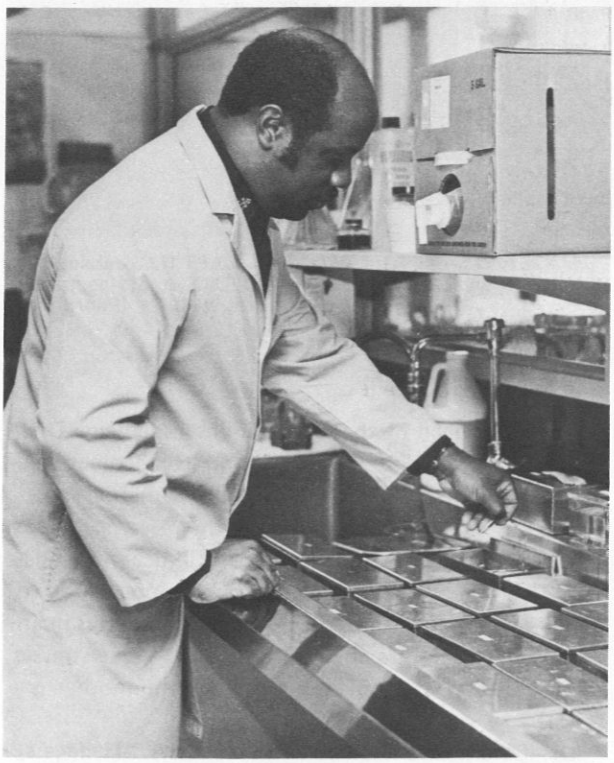
A fellowship in maternal-fetal medicine has now been established in the Department of Obstetrics and Gynecology, NNMC. The first Fellow, LCDR Paul E. Lewis, MC, USN, will begin training in Jul 1975. — PAO, NNMC, Bethesda, Md.

HMC WEBB GRADUATES FROM NAVY CYTOTECHNOLOGY SCHOOL

HMC Vern Webb, USN recently became the 1st student to graduate from the Navy Cytotechnology School, 1 of 16 allied health specialty schools conducted by the Naval Health Sciences Education and Training Command (HSETC), National Naval Medical Center, Bethesda, Md.

Candidates for the 1-year training program must have completed at least 2 years of college education, with emphasis on the basic sciences. Classes convene twice a year, in Jan and Jul. Four students are currently in training.

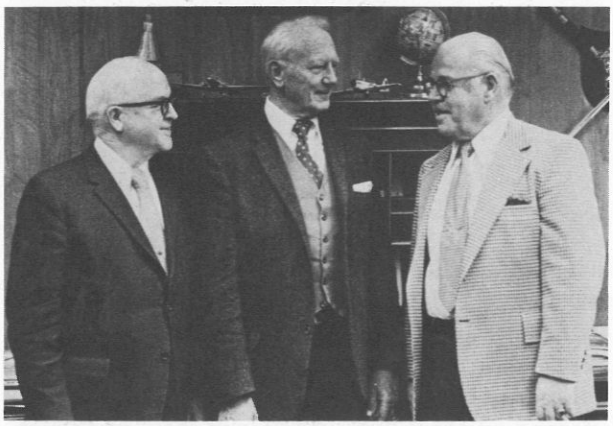
Graduates of the tri-service Cytotechnology School will assume responsibility for processing and evaluating cell specimens, tasks formerly accomplished by Navy pathologists and civilian cytotechnologists. — PAO, Bethesda, Md.



CELL SPECIALIST.—HMC V. Webb, USN, the 1st Navy hospital corpsman to graduate from the HSETC-sponsored Cytotechnology School, prepares to stain a set of slides. (Photo by HM1 Garry Silk, USN.)

NINETY-NINE YEARS OF NAVAL SERVICE

A Dec meeting at the Naval Submarine Medical Research Laboratory (NSMRL), Groton, Conn., brought together 3 former naval medical research leaders, whose combined naval service totals 99 years: CAPT Charles W. Shilling, MC, USN (Ret.); CAPT Albert R. Behnke, Jr., MC, USN (Ret.); and CAPT Charles F. Gell, MC, USN (Ret.), currently the scientific director of the NSMRL.



99 YEARS.—Three retired Navy medical officers, CAPT C.W. Shilling (left), CAPT A.R. Behnke, Jr. (center), and CAPT C.F. Gell, discuss their combined 99 years of military service during a conference at the Naval Submarine Medical Research Laboratory, Groton, Conn.

The founder and 1st officer-in-charge of the NSMRL, CAPT Shilling has a long history of contributions to submarine and diving research in the Navy. After retiring from the Navy in 1954, he served for 5 years with the Atomic Energy Commission, before joining the faculty of George Washington University, Washington, D.C., as director of its communication project. He is presently executive secretary of the Undersea Medical Society, Bethesda, Md.

CAPT Behnke retired from the Navy in 1959. He subsequently served as consultant to the underground rapid transit system in the San Francisco Bay area, working on underwater tunneling activities. He has also served on the faculty of the University of California Medical School. Dr. Behnke is considered to be a major contributor to diving research in the Navy.

After retiring from naval service in 1960, CAPT Gell served as chief of life sciences for the Vought Astronautics Division of Chance Vought Corporation, and as a clinical professor of physiology at Southwestern Medical School, Dallas, Tex. He was appointed scientific director of the NSMRL in 1966, a position he still

retains. He now directs his efforts toward submarine and diving medical research, after a long career of similar service in the research and development of Navy aerospace medicine.

The 3 physicians met to discuss PROJECT SHAD III, the 3rd series of shallow habitat dives on air, now under way at the NSMRL. — PAO, NSMRL, Groton, Conn.

INTERNATIONAL COLLEGE OF DENTISTS FELLOWSHIPS

Congratulations to the following Navy dental officers who were recently inducted into the International College of Dentists: RADM Robert W. Elliott, Jr., DC, USN; RADM Anthony K. Kaires, DC, USN; RADM George D. Selfridge, DC, USN; CAPT Paul E. Farrell, DC, USN; CAPT Thomas W. McKean, DC, USN; and CAPT Walter N. Gallagher, DC, USN (Ret.).

The International College of Dentists was created in 1928 to recognize established, impressive competency and character in the dental profession; to promote ethical practice; to honor meritorious service; and to promote cordial relations among the practitioners of the healing arts. — BUMED Code 6.

NEW DENTAL SPACES AT NGDS

Officials from the Dental Division of BUMED joined the CO and deputy CO of the Naval Graduate Dental School (NGDS), National Naval Medical Center (NNMC), Bethesda, Md., on 7 Nov 1974 for ceremonies marking the opening of the School's new prosthodontics and comprehensive dentistry wings. The 2 new dental training wings are housed in completely renovated areas.

IN GOOD HANDS.—While opening new dental training wings at the NGDS, Bethesda, 5 Navy dental officers practice "10-handed dentistry." From left to right are: RADM Robert W. Elliott, Jr., DC, USN, assistant chief for dentistry and chief of the Dental Division, BUMED; RADM Wade H. Hagerman, Jr., DC, USN, deputy chief of the Dental Division and the dental inspector general; CAPT Ronald G. Granger, DC, USN, chairman, Prosthodontics Department, NGDS; CAPT Robert J. Leupold, DC, USN, deputy CO, NGDS; and RADM George D. Selfridge, DC, USN, CO, NGDS.

As the School's 1st centralized site for 1st-year training in prosthodontics, the prosthodontics wing contains dental operatories for 6 residents, and room for 2 instructors. The new wing also contains a conference room with audiovisual capabilities for seminars or group teaching, and a small auxiliary prosthetic laboratory where work with porcelain and precious and nonprecious metals can be accomplished.

The comprehensive dentistry wing includes a modern dental clinic for the use of 2nd-year residents and staff members. In the comprehensive dentistry program, which began at the School during 1974, residents will be trained to provide all phases of dental care as practiced in the Navy. — PAO, NNMC, Bethesda, Md.

EXERCISE BOOKLET AVAILABLE

Beyond Diet: Exercise Your Way to Fitness and Heart Health, a 40-page booklet, is currently being distributed free of charge by the makers of a popular corn oil product. Based on the principles of exercise training and programming, the booklet explains not only how to exercise to minimize the risk of heart disease, but how much.

Written by a well-known exercise cardiologist, *Beyond Diet: Exercise Your Way to Fitness and Heart Health* gives answers to such questions as: Who should exercise? What is your target zone? What types of exercise can lead to fitness? What should you do about the everyday aches and pains so common when beginning an exercise program? Also included is a simple form on which you can record your progress.

Copies of this do-it-yourself guide are available, without charge, by writing: Mazola Oil Exercise Booklet, Dept. ZP, Box 307, Coventry, Conn. 06238.

URINALYSIS TESTING RESUMED

The Department of Defense (DOD) has directed the military services to resume urinalysis testing under the DOD Drug Abuse Testing Program, designed to identify drug abusers so that they can be rehabilitated and returned to full-time duty. All urinalysis testing was temporarily suspended 18 Jul 1974 when the Court of Military Appeals ruled that results of involuntary urinalysis could not be used as evidence in adverse

administrative action, including action leading to a general discharge. It has since been determined that the use of urinalysis testing to identify drug abusers is not ruled out. However, results of such tests will not be used as evidence in punitive or adverse administrative action, and an individual will not be separated with less than an honorable discharge if the only available evidence is the urinalysis results.

All Navy men and women, 25 years of age and below, will be subject to random mandatory testing; those over 25 years of age may be tested at the discretion of their commanding officer. Navy members directed to participate in urinary surveillance, and those undergoing treatment or successfully completing rehabilitation, will be required to take part in the program at a more frequent rate. — *CHINFO Newsgram,* 3-75.

PAI PAI CEREMONY AT NAMRU-2

Each year, in deference to strict Buddhist canons which forbid the taking of any life, staff members of the U.S. Naval Medical Research Unit No. 2 (NAMRU-2) join in a solemn Pai Pai ceremony to assure the departed souls of insects, bacteria, mice, and other living creatures that their sacrifice has not been forgotten.

Local Buddhist priests officiate at the ceremony, setting up the altar and surrounding it with pictures of Buddha, the Goddess of Mercy, and banners. Upon the altar are placed offerings: chicken, fish, rice cakes, fruit, rice, and wine. Candles, incense sticks, and the chanting instruments of the priests share the altar with these gifts.

The ceremony begins when monks walk through the NAMRU-2 building collecting the straying souls of sacrificed insects and animals; when the priests reach the altar, prayers are said, followed by the burning of paper money and the offering of food to the departed souls.

While the Buddhist priests chant sutras and burn incense, the commanding officer of NAMRU-2 and the heads of the veterinary medicine, medical ecology, and microbiology departments lead the procession of animal and insect slaughterers (NAMRU-2 technicians) to the altar. The priests then offer each participant a piece of incense from a small box; the incense is placed in a burner as an expression of sympathy for the sacrifice of the victims' lives. Each person says a silent prayer, bows, and leaves the altar.

At the end of the ceremony, firecrackers are set off to tell the souls to leave the area. The food offerings are then taken to the NAMRU-2 cafeteria, where they are given to the technicians; by accepting the food, the technicians cleanse their conscience of the slaughtering that they were obligated to do in the past year. — LTJG T.M. Reynolds, MSC, USNR, NAMRU-2, Taipei, Taiwan.

OFFERINGS.—Colorful banners brighten the altar on which offerings of wine, fruit, meat, and bags of animal feed are placed during the Pai Pai ceremony at NAMRU-2.

INCENSE.—CAPT P.F.D. VanPeenen, MC, USN (left), CO of NAMRU-2, and Dr. H.S. Chiang of the Department of Veterinary Medicine, offer incense for the souls of animals slaughtered for Laboratory research projects.

PAI PAI CEREMONY.—During the 2-hour Pai Pai ceremony, Buddhist monks chant and play musical instruments.

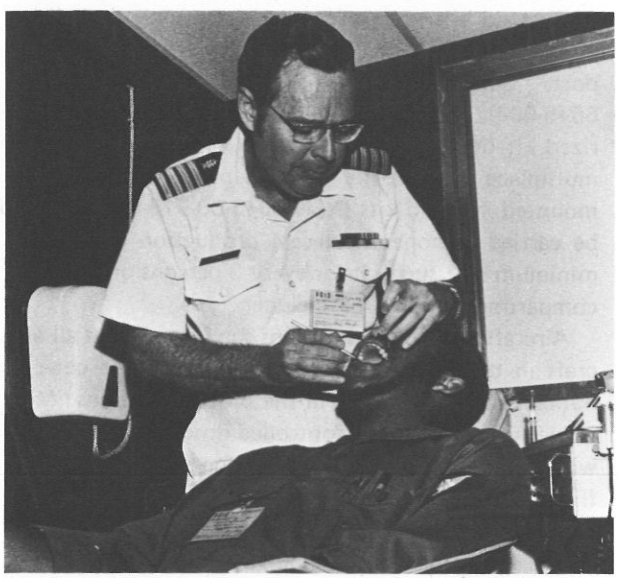
PACIFIC FLEET GETS FANTAIL DENTISTRY

If the sailor can't go to the dentist, the dentist will go to the sailor. That's the theory behind "Fantail Dentistry," a new Pacific Fleet dental program designed to insure yearly dental care for sailors afloat.

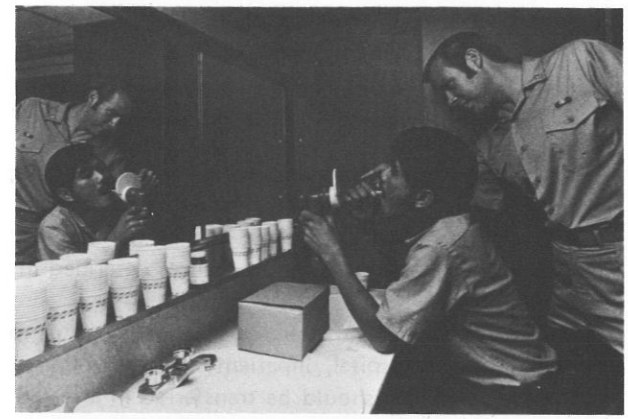
According to CAPT R.W. Bruce, DC, USN, fleet and force dental officer, present programs of dental care delivery do not make sufficient allowance for the varied schedules of Navy personnel assigned to smaller surface ships. By the time the men have completed preliminary dental examinations, their ship deploys. When the ship returns the men undergo another examination in the dental clinic; then their ship again deploys. As a result, the dental charts of the men become filled with reports of examinations, but follow-up care is frequently not completed until it becomes critical.

To solve this problem, the Fantail Dentistry Program is being tested in the guided missile frigate USS *Reeves.* Participating in the experimental program are 4 Naval Reserve dental officers from Dallas, Tex.: CAPT James Burnett (commanding officer, Dental Company 8-5, Dallas), CAPT Paul B. Carrington, CDR William H. Greenlee, and CDR Frank R. Miller. The 4 officers volunteered to fly to Hawaii at their own expense to help coordinate the new program.

Designed chiefly to support personnel in destroyer-type and smaller surface ships, the program is divided into 3 sections. Patients are first checked for tooth decay, and their charts are marked and color coded to reflect required follow-up work. In the subsequent preventive dentistry portion of the program, patients are taught proper procedures for brushing teeth, controlling dental plaque, and maintaining good oral hygiene. Finally, under the supervision of a dental technician, the patients demonstrate their competence with the newly learned techniques of brushing and flossing.



GOOD NEWS.—CAPT James Burnett, DC, USNR has good news for QM1 Harvey Wilson: examination in the portable dental clinic in the USS *Reeves* shows the sailor's teeth to be in top-notch condition. (Photos by JO1 Kirby Harrison, USN.)



MIRROR, MIRROR.—Who has the cleanest teeth of all? CDR William H. Greenlee, DC, USNR helps a sailor learn proper brushing techniques.

FANTAIL DENTISTRY.—Using portable marine field dental equipment set up on the fantail of the USS *Reeves,* 3 sailors practice brushing their teeth.

It takes approximately 1 day to set up the portable marine field equipment used to examine, clean, and fluoridate teeth aboard ship. A typical 350-man crew of a destroyer can be examined in about 1 week. Follow-up appointments are scheduled at the Pearl Harbor Naval Dental Clinic, Hawaii. — JO3 Kathryn M. Hoogeboom, USN, PAO, CINCPACFLT, FPO San Francisco 96610.

OFFICIAL INSTRUCTIONS AND DIRECTIVES

BUMEDINST 6150.1D of 8 Nov 1974

Subj: Inpatient and outpatient medical treatment records, X-rays, and pathology slides; transfer of

Inpatient records. Original inpatient records, X-rays, and pathology slides may be forwarded upon request, on a temporary loan basis only, to another military medical facility, following the procedures described in this instruction.

When an individual is transferred in a patient status to another military hospital, inpatient records, X-rays, and pathology slides should be transferred in a sealed envelope with the patient, in accordance with the procedures described in this instruction. Records will be forwarded from a Navy medical facility to a Veterans Administration hospital in accordance with the BUMEDINST 6320.11 series.

When a patient is readmitted to inpatient status, the admitting facility shall insert a charge-out card, showing the date of readmission, in place of any inpatient clinical records and X-rays previously removed from the files and brought forward in the current record.

Outpatient records. Original outpatient treatment records and X-rays of dependents may be transferred directly to another military medical facility upon request. On change of duty station or family residence, these items may be mailed in advance to the specific medical facility that will provide care. Outpatient records and X-rays may, upon written authorization, be hand-carried to another military hospital in the custody of the sponsor, spouse, or other adult dependent.

Administrative staff members of outpatient medical treatment facilities may release dependents' records and X-rays in strict accordance with instructions on NAVMED 6150/8, Outpatient Record Release Request and Transfer Receipt. This form (which replaces NAVMED 6150/6, Dependents Outpatient Record Release) is available at the Cog II stock point of the Navy Supply System, under stock number 0105-LF-206-1540. The recipient should be reminded that the released records are the only existing documentation of the patient's medical care and treatment.

Alternately, dependents' outpatient records and X-rays may be forwarded to the personnel office of the sponsor's detaching command for inclusion with the sponsor's service, pay, and health record, to be hand-carried to the next duty station. Charge-out cards shall be substituted for the transferred records in the files of the forwarding facilities.

Where considered essential, excerpts of relevant portions of dependents' outpatient records may be furnished patients for temporary use, such as during vacation. Reports of medical care received during the temporary absence will be added to the original record.

Navy medical personnel should insure that all military members are familiar with the procedures and authorizations necessary for release of dependents' records.

BUMEDNOTE 6320 of 20 Nov 1974

Subj: Navy Child Advocacy Program

In order to provide a sound data base on which to form a Navy Child Advocacy Program, the following information will be reported to BUMED Code 3131:

- Suspected or confirmed child abuse cases for calendar year 1974.
- Suspected or confirmed child abuse cases commencing 1 Jan 1975, to be received not later than the 15th day of the month following the month being reported.

A sample report format is included in this notice. The report symbol is MED 6320-20.

BUMEDINST 6780.1H of 2 Dec 1974

Subj: First-aid kits for aircraft and flight personnel

First-aid kits and replacement components shall be provided by activities and vessels offering medical support. General purpose first-aid kits, size A (NSN 6545-00-922-1200), which replace the previously authorized kit (NSN 6546-00-116-1410), may be used in all multiplace airborne life-rafts. General purpose, panel-mounted, first-aid kits (NSN 6545-00-919-6650) should be carried in nonejection-seat production aircraft; a minimum of 1 such kit for every 3 persons or occupied compartment should be included.

Aircraft reporting custodians shall insure that all aircraft in their custody are outfitted with the correct number of first-aid kits, in the proper locations. Morphine syrettes or other controlled drugs may be issued, with permission of the commanding officer, when the flight mission indicates the possible emergency need for such items.

The following items are also available: survival escape and evasion kit (NSN 4220-00-946-9336-LA20); individual airman's survival kit, complete assembly (NSN 6545-00-478-6504); airman's medical packet,

individual survival kit, subassembly (NSN 6545-00-231-9421); and general medical packet No. 2, subassembly (NIIN 00-152-1578).

First-aid kits shall be inspected annually or more frequently as necessary.

SECNAVINST 7220.75 of 6 Dec 1974

Subj: Variable incentive pay for Medical Corps officers

The Variable Incentive Pay (VIP) Program was established to encourage Medical Corps officers to remain on active duty, especially in critical medical specialties. Medical officers eligible for VIP must be in pay grades 0-3 through 0-6, have no disqualifying active-duty obligations, and not be serving as an intern or in initial residency training.

VIP Selection Boards shall be convened at least annually to consider all active-duty Medical Corps officers becoming eligible for VIP within the next 12 months. Medical officers previously selected for VIP will also be reconsidered annually.

If it is determined that a premium should be placed on an individual physician's procurement or retention, that officer will be placed in "Category 1," and may be offered an active-duty agreement for 1, 2, 3, or 4 years. No agreement will extend beyond an officer's time of mandatory retirement. Officers entering their 1st period of active duty may be restricted to a 1- or 2-year agreement.

If it is determined that no premium should be placed on a physician's procurement or retention, that individual will be placed in "Category 2," and will not be offered a VIP agreement.

The eligibility of physicians who transfer from 1 critical skill to another may be reconfirmed by the VIP Selection Board, with the approval of the Navy Surgeon General.

Physicians will be notified by BUMED following their selection for VIP. The amount of VIP to which a medical officer is entitled is shown in Table I. At the option of the officer concerned, VIP may be paid in equal annual, semiannual, or monthly installments; or in a lump sum after completion of the active-duty period specified in the agreement. Once designated, the spacing of payments may not be changed.

Entitlement to VIP may be terminated at any time upon a determination by the VIP Selection Board that performance has deteriorated to a level at which no premium should be placed upon a physician's continued service. An officer may voluntarily terminate his agreement at any time, but such termination will not entitle him to be separated from the Navy; any such separation will be governed by other appropriate regulations and policies. Officers who, for any reason, fail to complete their agreement will refund the amount of VIP received that exceeds entitlement.

TABLE I

MEDICAL OFFICERS VARIABLE INCENTIVE PAY ENTITLEMENT (IN DOLLARS PER YEAR)

	Length of Active-Duty Agreement			
Years of service	*1 Year*	*2 Years*	*3 Years*	*4 Years*
4 through 13	$12,000	$12,500	$13,000	$13,500
14 through 19	11,500	12,000	12,500	13,000
20 through 25	11,000	11,300	11,600	12,000
26 or more	10,000	10,300	10,600	11,000
Officers with long-term training obligation	9,000	9,000	9,000	9,000

BUMEDNOTE 4860 of 23 Dec 1974

Subj: Commercial or Industrical Activities Program; 1st year review

Review reports of commercial or industrial activities for the 1st year of the triennial review schedule were to be submitted to BUMED Code 44 by 1 Feb 1975. Functional areas affected by this requirement include: laundry, dry cleaning services, S708; custodial services, S709; other services or utilities, S730; administrative telephone services, T809; and other (automatic data processing), W827. The report control symbol for this program is DD-I&L(A) 799 (4860).

BUMEDNOTE 6110 of 13 Dec 1974

Subj: Lenticular opacities; evaluation regarding occupational exposure to ionizing radiation

The following guidelines for evaluating lenticular opacities are effective immediately:

- Reports of patients with opacities in the following categories need not be referred to BUMED for review: Y-suture, Mittendorf dot, vacuole, hyaloid, artery remnant, pigment, punctate.
- Reports of patients with all other opacities — including senile, posterior subcapsular, traumatic, or metabolic cataracts, and any lenticular lesions which

could be related to previous radiation exposure — will be referred to BUMED Code 53 for review. Reports of any questionable lesions will also be forwarded for review.

BUMEDINST 12442.1B of 30 Dec 1974

Subj: Area wage increases (report symbol MED-12552-1)

Because BUMED is not allowed to budget for area wage increases, Navy hospitals and regional medical centers are required to absorb these costs. When an area wage increase occurs, BUMED will so notify affected activities; within 30 days of such notification, these activities will submit a letter report to BUMED Code 372 with the following information: effective date of area wage increase; consolidated list of all upgraded civilian employees, grouped into categories indicating number of employees by job title, step rate, and hourly wage before and after the increase; total increased costs for remainder of the fiscal year; and any associated cost increases for purchased services. The latter costs need only be identified and reported as a total increase entry for the remainder of the fiscal year.

BUMEDNOTE 6260 of 2 Jan 1975

Subj: Dental base metal alloys containing beryllium

Because of potential health hazards to persons exposed to dental base metal alloys containing beryllium, the following precautions are to be observed when working with this material:

- A certified dust respirator shall be worn for protection against dusts, fumes, and mists.
- Laboratory coats shall be worn.
- Dust removal from clothing and machinery shall be accomplished by vacuum power suction, and not by use of compressed air blast.
- Casting shall be accomplished below the boiling point of beryllium (2,790°C.), to minimize formation of beryllium vapor.
- Warning signs shall be placed at entrances to and in areas where dust from beryllium alloys can be generated.
- Eating, drinking, chewing, or smoking shall be prohibited in areas of possible contamination.
- Persons who work in or frequently enter dental prosthetic laboratories should be appraised of potential hazards and informed of precautions to be observed.

BUMEDNOTE 12713 of 8 Jan 1975

Subj: Equal Employment Opportunity Program requirements

Implementation of Navy Equal Employment Opportunity (EEO) policies requires that top-level attention be given to affirmative action plans (AAPs), and that civilian employees in small activities be provided appropriate local EEO program coverage.

All BUMED activities with 100 or more civilian employees were required to submit local AAPs for Bureau review and approval no later than 7 Feb 1975. All BUMED activities employing 20 or more civilians in at least 1 grade level or occupation were required to submit to the Bureau a numerical goals report no later than 28 Feb 1975.

BUMEDNOTE 1500 of 7 Jan 1975

Subj: Navy race relations education

Addressees are directed to furnish BUMED Code 313 with information about the extent and effectiveness of Navy race relations education programs in the Medical Department. An equal opportunity questionnaire is enclosed as a guide. Information was to be forwarded by 1 Mar 1975.

UNITED STATES NAVY MEDICINE

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A PROUD TRADITION.—Where were you in 1943? Then, as now, members of the Navy Medical Department were carrying on a proud tradition of service to country, patients, and profession. (Above left) In Wellington, New Zealand, a Navy operating team assigned to A Medical Company provides care in a surgical hut. (Above right) Sick call in Tarawa, Gilbert Islands. (Right) LCDR Justin Stein, MC, USNR examines a Japanese medicine bottle in Tarawa.

U.S. NAVY MEDICINE